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ELEMENTS

OF THE

PHILOSOPHY

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OF THE

HUMAN MIND.

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BY

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VOLUME FIRST.

ASIATIC SOCIETY

SIXTH EDITION.

LONDON:

PRINTED FOR T. CADELL AND W. DAVIES, IN THE STRAND; AND A. CONSTABLE, AND CO. EDINBURGH.

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" TO

THE REVEREND

THOMAS REID, D. D.

PROFESSOR OF MORAL PHILOSOPHY

IN THE UNIVERSITY OF GLASGOW,

THIS WORK

IS INSCRIBED,

IN TESTIMONY OF

THE RESPECT AND AFFECTION

OF

THE AUTHOR.

ADVERTISEMENT.

In various parts of the following Work, references are made to subsequent speculations, which are not contained in it. These speculations it is my intention to resume at some future period: but when I consider the extent of my subject, and the many accidents which may divert me from the prosecution of it, I cannot venture so far as to announce, in the title-page of this volume, any promise of a future publication.

Some additional chapters are still wanting, to complete the Analysis of the Intellectual Powers. After finishing this, the course of my inquiries would lead me to treat, in the second place, of Man considered as an Active and Moral being; and thirdly, of Man considered as the member of a Political Society.

COLLEGE OF EDINBURGH,
March 13, 1792.

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ERRATA.

Page 44, line 5, *delete* general
57, 28, *for* m'etonne *read* m'étonne
138, 10, *for* bein *read* bien
196, 10, note, *for* in *read* on
224, 12, *delete* so
227, 5, note, *for* propress *read* progress
299, 22, note, *for* brevi *read* brevis
334, 12, note, *insert parenthesis*
366, 11, note, *for* univeralis *read* universalis
430, 8, note, *after* est *insert a comma*
431, 6, *for* anticipation *read* anticipations

ELEMENTS

OF THE

PHILOSOPHY

OF THE

HUMAN MIND.

INTRODUCTION.

PART FIRST.

Of the Nature and Object of the Philosophy of the Human Mind.

THE prejudice which is commonly entertained against metaphysical speculations, seems to arise chiefly from two causes: First, from an apprehension that the subjects about which they are employed are placed beyond the reach of the human faculties; and, secondly, from a belief that these subjects have no relation to the business of life.

The frivolous and absurd discussions which abound in the writings of most Metaphysical authors, afford but too many arguments in justification of these opinions; and if such discussions were to be admitted as a fair specimen of what the human mind is able to accomplish in this department of science, the contempt, into which it has fallen of late, might with justice be regarded, as no inconsiderable evi-

dence of the progress which true philosophy has made in the present age. Among the various subjects of inquiry, however, which, in consequence of the vague use of language, are comprehended under the general title of Metaphysics, there are some, which are essentially distinguished from the rest, both by the degree of evidence which accompanies their principles, and by the relation which they bear to the useful sciences and arts: and it has unfortunately happened, that these have shared in that general discredit, into which the other branches of metaphysics have justly fallen. To this circumstance is probably to be ascribed, the little progress which has hitherto been made in the PHILOSOPHY OF THE HUMAN MIND; a science, so interesting in its nature, and so important in its applications, that it could scarcely have failed, in these inquisitive and enlightened times, to have excited a very general attention, if it had not accidentally been classed, in the public opinion, with the vain and unprofitable disquisitions of the school-men.

In order to obviate these misapprehensions with respect to the subject of the following work, I have thought it proper, in this preliminary chapter, first, to explain the Nature of the truths which I propose to investigate; and, secondly, to point out some of the more important Applications of which they are susceptible. In stating these preliminary observations, I may perhaps appear to some to be minute and tedious; but this fault, I am confident, will be readily pardoned by those, who have studied with care the principles of that science of which I am to treat: and who are anxious to remove the prejudices

which have, in a great measure, excluded it from the modern systems of education. In the progress of my work, I flatter myself that I shall not often have occasion to solicit the indulgence of my readers, for an unnecessary diffuseness.

The notions we annex to the words, Matter, and Mind, as is well remarked by Dr. Reid *, are merely relative. If I am asked, what I mean by Matter? I can only explain myself by saying, it is that which is extended, figured, coloured, moveable, hard or soft, rough or smooth, hot or cold; — that is, I can define it in no other way than by enumerating its sensible qualities. It is not matter, or body, which I perceive by my senses; but only extension, figure, colour, and certain other qualities, which the constitution of my nature leads me to refer to something, which is extended, figured, and coloured. The case is precisely similar with respect to Mind. We are not immediately conscious of its existence, but we are conscious of sensation, thought, and volition; operations, which imply the existence of something which feels, thinks, and wills. Every man too is impressed with an irresistible conviction, that all these sensations, thoughts, and volitions, belong to one and the same being; to that being, which he calls *himself*; a being, which he is led, by the constitution of his nature, to consider as something distinct from his body, and as not liable to be impaired by the loss or mutilation of any of his organs.

From these considerations, it appears, that we have the same evidence for the existence of mind, that we have for the existence of body; nay, if there

* Essays on the Active Powers of Man, p. 8, 9.

be any difference between the two cases, that we have stronger evidence for it; inasmuch as the one is suggested to us by the subjects of our own consciousness, and the other merely by the objects of our perceptions: and in this light, undoubtedly, the fact would appear to every person, were it not, that, from our earliest years, the attention is engrossed with the qualities and laws of matter, an acquaintance with which is absolutely necessary for the preservation of our animal existence. Hence it is, that these phenomena occupy our thoughts more than those of mind; that we are perpetually tempted to explain the latter by the analogy of the former, and even to endeavour to refer them to the same general laws; and that we acquire habits of inattention to the subjects of our consciousness, too strong to be afterwards surmounted, without the most persevering industry.

If the foregoing observations be well founded, they establish the distinction between mind and matter, without any long process of metaphysical reasoning*: for if our notions of both are merely relative; if we know the one, only by such sensible qualities as extension, figure, and solidity; and the other, by such operations as sensation, thought, and volition; we are certainly entitled to say, that matter and mind, considered as objects of human study, are essentially different; the science of the former resting ultimately on the phenomena exhibited to our senses; that of the latter, on the phenomena of which we are conscious. Instead, therefore, of objecting to the scheme of materialism,

* See Note [A], at the end of the volume.

that its conclusions are false, it would be more accurate to say, that its aim is unphilosophical. It proceeds on a misapprehension of the proper object of science; the difficulty which it professes to remove being manifestly placed beyond the reach of our faculties. Surely, when we attempt to explain the nature of that principle which feels and thinks and wills, by saying, that it is a material substance, or that it is the result of material organization, we impose on ourselves by words; forgetting, that matter as well as mind is known to us by its qualities and attributes alone, and that we are totally ignorant of the essence of either. *

As all our knowledge of the material world is derived from the information of our senses, Natural philosophers have, in modern times, wisely abandoned to Metaphysicians, all speculations concerning the nature of that substance of which it is composed; concerning the possibility or impossibility of its being created; concerning the efficient causes of the changes which take place in it; and even concerning the reality of its existence, independent of that of percipient beings: and have confined themselves to the humbler province of ob-

* Some Metaphysicians, who appear to admit the truth of the foregoing reasoning, have farther urged, that for any thing we can prove to the contrary, it is possible, that the unknown substance which has the qualities of extension, figure, and colour, may be the same with the unknown substance which has the attributes of feeling, thinking, and willing. But besides that this is only an hypothesis, which amounts to nothing more than a mere possibility, even if it were true, it would no more be proper to say of mind, that it is material, than to say of body, that it is spiritual.

serving the phenomena it exhibits, and of ascertaining their general laws. By pursuing this plan steadily, they have, in the course of the two last centuries, formed a body of science, which not only does honour to the human understanding, but has had a most important influence on the practical arts of life.—This experimental philosophy, no one now is in danger of confounding with the metaphysical speculations already mentioned. Of the importance of these, as a separate branch of study, it is possible that some may think more favourably than others; but they are obviously different in their nature from the investigations of physics; and it is of the utmost consequence to the evidence of this last science, that its principles should not be blended with those of the former.

A similar distinction takes place among the questions which may be stated relative to the human mind.—Whether it be extended or unextended; whether or not it has any relation to place; and (if it has) whether it resides in the brain, or be spread over the body, by diffusion; are questions perfectly analogous to those which Metaphysicians have started on the subject of matter. It is unnecessary to enquire, at present, whether or not they admit of answer. It is sufficient for my purpose to remark, that they are as widely and obviously different from the view which I propose to take of the human mind in the following work, as the reveries of Berkeley concerning the non-existence of the material world, are from the conclusions of Newton and his followers.—It is farther evident, that the metaphysical opinions which we may happen to have

formed concerning the nature either of body or of mind, and the efficient causes by which their phenomena are produced, have no necessary connexion with our inquiries concerning the laws according to which these phenomena take place.— Whether (for example) the cause of gravitation be material or immaterial, is a point about which two Newtonians may differ, while they agree perfectly in their physical opinions. It is sufficient, if both admit the general fact, that bodies tend to approach each other, with a force varying with their mutual distance, according to a certain law. In like manner, in the study of the human mind, the conclusions to which we are led, by a careful examination of the phenomena it exhibits, have no necessary connexion with our opinions concerning its nature and essence.— That when two subjects of thought, for instance, have been repeatedly presented to the mind in conjunction, the one has a tendency to suggest the other, is a fact of which I can no more doubt, than of any thing for which I have the evidence of my senses; and it is plainly a fact totally unconnected with any hypothesis concerning the nature of the soul, and which will be as readily admitted by the materialist as by the Berkeleian.

Notwithstanding, however, the reality and importance of this distinction, it has not hitherto been sufficiently attended to, by the philosophers who have treated of the human mind. Dr. Reid is perhaps the only one who has perceived it clearly, or at least who has kept it steadily in view, in all his inquiries. In the writings, indeed, of several other modern Metaphysicians, we meet with a variety of import-

ant and well-ascertained facts; but, in general, these facts are blended with speculations upon subjects which are placed beyond the reach of the human faculties. —— It is this mixture of fact, and of hypothesis, which has brought the philosophy of mind into some degree of discredit; nor will ever its real value be generally acknowledged, till the distinction I have endeavoured to illustrate, be understood, and attended to, by those who speculate on the subject. By confining their attention to the sensible qualities of body, and to the sensible phenomena it exhibits, we know what discoveries natural philosophers have made: and if the labours of Metaphysicians shall ever be rewarded with similar success, it can only be, by attentive and patient reflection on the subjects of their own consciousness.

I cannot help taking this opportunity of remarking, on the other hand, that if physical inquirers should think of again employing themselves in speculations about the nature of matter, instead of attempting to ascertain its sensible properties and laws, (and of late there seems to be such a tendency among some of the followers of Boscovich,) they will soon involve themselves in an inextricable labyrinth, and the first principles of physics will be rendered as mysterious and chimerical, as the pneumatology of the school-men.

The little progress which has hitherto been made in the philosophy of mind, will not appear surprising to those who have attended to the history of natural knowledge. It is only since the time of Lord Bacon, that the study of it has been

prosecuted with any degree of success, or that the proper method of conducting it has been generally understood. There is even some reason for doubting, from the crude speculations on medical and chemical subjects which are daily offered to the public, whether it be yet understood so completely as is commonly imagined; and whether a fuller illustration of the rules of philosophising, than Bacon or his followers have given, might not be useful, even to physical inquirers.

When we reflect, in this manner, on the shortness of the period during which natural philosophy has been successfully cultivated; and, at the same time, consider how open to our examination the laws of matter are, in comparison of those which regulate the phenomena of thought, we shall neither be disposed to wonder, that the philosophy of mind should still remain in its infancy, nor be discouraged in our hopes concerning its future progress. The excellent models of this species of investigation, which the writings of Dr. Reid exhibit, give us ground to expect that the time is not far distant, when it shall assume that rank which it is entitled to hold among the sciences.

It would probably contribute much to accelerate the progress of the philosophy of mind, if a distinct explanation were given of its nature and object; and if some general rules were laid down, with respect to the proper method of conducting the study of it. To this subject, however, which is of sufficient extent to furnish matter for a separate work, I cannot attempt to do justice at present; and shall therefore confine myself to the illustration of a few fundamental principles, which it will be of essential

importance for us to keep in view in the following inquiries.

Upon a slight attention to the operations of our own minds, they appear to be so complicated, and so infinitely diversified, that it seems to be impossible to reduce them to any general laws. In consequence, however, of a more accurate examination, the prospect clears up; and the phenomena, which appeared, at first, to be too various for our comprehension, are found to be the result of a comparatively small number of simple and uncompounded faculties, or of simple and uncompounded principles of action. These faculties and principles are the general laws of our constitution, and hold the same place in the philosophy of mind, that the general laws we investigate in physics, hold in that branch of science. In both cases, the laws which nature has established, are to be investigated only by an examination of facts; and in both cases, a knowledge of these laws leads to an explanation of an infinite number of phenomena.

In the investigation of physical laws, it is well known, that our inquiries must always terminate in some general fact, of which no account can be given, but that such is the constitution of nature. After we have established, for example, from the astronomical phenomena, the universality of the law of gravitation, it may still be asked, whether this law implies the constant agency of mind; and (upon the supposition that it does) whether it be probable that the Deity always operates immediately, or by means of subordinate instruments? But these questions, however curious, do not fall under the province of

the natural philosopher. It is sufficient for his purpose, if the universality of the fact be admitted.

The case is exactly the same in the philosophy of mind. When we have once ascertained a general fact; such as, the various laws which regulate the association of ideas, or the dependence of memory on that effort of the mind which we call, Attention; it is all we ought to aim at, in this branch of science. If we proceed no farther than facts for which we have the evidence of our own consciousness, our conclusions will be no less certain, than those in physics: but if our curiosity leads us to attempt an explanation of the association of ideas, by certain supposed vibrations, or other changes, in the state of the brain; or to explain memory, by means of supposed impressions and traces in the sensorium; we evidently blend a collection of important and well-ascertained truths, with principles which rest wholly on conjecture. *

* There is indeed one view of the connexion between Mind and Matter, which is perfectly agreeable to the just rules of philosophy. The object of this is, to ascertain the laws which regulate their union, without attempting to explain in what manner they are united.

Lord Bacon was, I believe, the first who gave a distinct idea of this sort of speculation; and I do not know that much progress has yet been made in it. In his books *de Augmentis Scientiarum*, a variety of subjects are enumerated, in order to illustrate its nature; and, undoubtedly, most of these are in a high degree curious and important. The following list comprehends the chief of those he has mentioned; with the addition of several others, recommended to the consideration of Philosophers and of Medical Inquirers, by the late Dr. Gregory. See his Lectures on the Duties and Qualifications of a Physician.

1. The doctrine of the preservation and improvement, of the different senses.

The observations which have been now stated, with respect to the proper limits of philosophical curiosity, have too frequently escaped the attention of speculative men, in all the different departments of science. In none of these, however, has this inattention produced such a variety of errors and absurdities, as in the science of mind; a subject to which, till of late, it does not seem to have been suspected, that the general rules of philosophising are applicable. The strange mixture of fact and

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2. The history of the power and influence of imagination.

3. The history of the several species of enthusiasm.

4. The history of the various circumstances in parents, that have an influence on conception, and the constitution and characters of their children.

5. The history of dreams.

6. The history of the laws of custom and habit.

7. The history of the effects of music, and of such other things as operate on the mind and body, in consequence of impressions made on the senses.

8. The history of natural signs and language, comprehending the doctrine of physiognomy and of outward gesture.

9. The history of the power and laws of the principle of imitation.

To this list various other subjects might be added; particularly, the history of the laws of memory, in so far as they appear to be connected with the state of the body; and the history of the different species of madness.

This view of the connexion between Mind and Matter does not fall properly under the plan of the following work; in which my leading object is to ascertain the principles of our nature, in so far as they can be discovered by attention to the subjects of our own consciousness; and to apply these principles to explain the phenomena arising from them. Various incidental remarks, however, will occur in the course of our inquiries, tending to illustrate some of the subjects comprehended in the foregoing enumeration.

hypothesis, which the greater part of metaphysical inquiries exhibit, had led almost universally to a belief, that it is only a very faint and doubtful light, which human reason can ever expect to throw on this dark, but interesting, field of speculation.

Beside this inattention to the proper limits of philosophical inquiry, other sources of error, from which the science of physics is entirely exempted, have contributed to retard the progress of the philosophy of mind. Of these, the most important proceed from that disposition which is so natural to every person at the commencement of his philosophical pursuits, to explain intellectual and moral phenomena by the analogy of the material world.

I before took notice of those habits of inattention to the subjects of our consciousness, which take their rise in that period of our lives when we are necessarily employed in acquiring a knowledge of the properties and laws of matter. In consequence of this early familiarity with the phenomena of the material world, they appear to us less mysterious than those of mind; and we are apt to think that we have advanced one step in explaining the latter, when we can point out some analogy between them and the former. It is owing to the same circumstance, that we have scarcely any appropriated language with respect to mind, and that the words which express its different operations, are almost all borrowed from the objects of our senses. It must, however, appear manifest, upon a very little reflection, that as the two subjects are essentially distinct, and as each of them has its peculiar laws, the analogies we are pleased to fancy between them, can be of no use in

illustrating either; and that it is no less unphilosophical to attempt an explanation of perception, or of the association of ideas, upon mechanical principles; than it would be to explain the phenomena of gravitation, by supposing, as some of the ancients did, the particles of matter to be animated with principles of motion; or to explain the chemical phenomena of elective attractions, by supposing the substances among which they are observed, to be endowed with thought and volition. — The analogy of matter, therefore, can be of no use in the inquiries which form the object of the following work; but, on the contrary, is to be guarded against, as one of the principal sources of the errors to which we are liable.

Among the different philosophers who have speculated concerning the human mind, very few indeed can be mentioned, who have at all times been able to guard against analogical theories. At the same time, it must be acknowledged, that since the publication of Des Cartes' writings, there has been a gradual, and, on the whole, a very remarkable improvement in this branch of science. One striking proof of this is, the contrast between the metaphysical speculations of some of the most eminent philosophers in England at the end of the last century, and those which we find in the systems, however imperfect, of the present age. Would any writer now offer to the world, such conclusions with respect to the mind, as are contained in the two following passages from Locke and Newton? "Habits," (says Locke,) "seem to be but trains of motion, in "the animal spirits, which, once set-a-going, con-

" tinue in the same steps they had been used to, " which, by often treading, are worn into a smooth " path." And Newton himself has proposed the following query, concerning the manner in which the mind perceives external objects. " Is not," (says he,) " the sensorium of animals the place where the " sentient substance is present, and to which the sen- " sible species of things are brought, through the " nerves and brain, that they may be perceived by " the mind present in that place?"—In the course of the following Essays, I shall have occasion to quote various other passages from later writers, in which an attempt is made to explain the other phenomena of mind, upon similar principles.

It is, however, much to be regretted, that even since the period when philosophers began to adopt a more rational plan of inquiry with respect to such subjects, they have been obliged to spend so much of their time in clearing away the rubbish collected by their predecessors. This, indeed, was a preliminary step, which the state of the science, and the conclusions to which it had led, rendered absolutely necessary; for however important the positive advantages may be which are to be expected from its future progress, they are by no means so essential to human improvement and happiness, as a satisfactory refutation of that sceptical philosophy, which had struck at the root of all knowledge, and all belief. Such a refutation seems to have been the principal object which Dr. Reid proposed to himself in his metaphysical inquiries; and to this object his labours have been directed with so much ability, candour, and perseverance, that unless future sceptics should

occupy a ground very different from that of their predecessors, it is not likely that the controversy will ever be renewed. The rubbish being now removed, and the foundations laid, it is time to begin the superstructure. The progress which I have made in it is, I am sensible, very inconsiderable; yet I flatter myself, that the little I have done, will be sufficient to illustrate the importance of the study, and to recommend the subjects of which I am to treat, to the attention of others.

After the remarks which I have now made, the reader will not be surprised to find, that I have studiously avoided the consideration of those questions which have been agitated in the present age, between the patrons of the sceptical philosophy, and their opponents. These controversies have, in truth, no peculiar connexion with the inquiries on which I am to enter. It is, indeed, only by an examination of the principles of our nature, that they can be brought to a satisfactory conclusion; but supposing them to remain undecided, our sceptical doubts concerning the certainty of human knowledge, would no more affect the philosophy of mind, than they would affect any of the branches of physics; nor would our doubts concerning even the existence of mind, affect this branch of science, any more than the doubts of the Berkeleian, concerning the existence of matter, affect his opinions in natural philosophy.

To what purposes the philosophy of the human mind, according to the view which I propose to take of it, is subservient, I shall endeavour to explain, at some length, in the following section.

PART SECOND.

SECTION I.

Of the Utility of the Philosophy of the Human Mind.

It has been often remarked, that there is a mutual connexion between the different arts and sciences; and that the improvements which are made in one branch of human knowledge, frequently throw light on others, to which it has apparently a very remote relation. The modern discoveries in astronomy, and in pure mathematics, have contributed to bring the art of navigation to a degree of perfection formerly unknown. The rapid progress which has been lately made in astronomy, anatomy, and botany, has been chiefly owing to the aid which these sciences have received from the art of the optician.

Although, however, the different departments of science and of art mutually reflect light on each other, it is not always necessary either for the philosopher or the artist to aim at the acquisition of general knowledge. Both of them may safely take many principles for granted, without being able to demonstrate their truth. A seaman, though ignorant of mathematics, may apply, with correctness and dexterity, the rules for finding the longitude: an astronomer, or a botanist, though ignorant of optics, may avail himself of the use of the telescope, or the microscope.

These observations are daily exemplified in the case of the artist; who has seldom either inclination or leisure to speculate concerning the principles of his art. It is rarely, however, we meet with a man of science, who has confined his studies wholly to one branch of knowledge. That curiosity, which he has been accustomed to indulge in the course of his favourite pursuit, will naturally extend itself to every remarkable object which falls under his observation; and can scarcely fail to be a source of perpetual dissatisfaction to his mind, till it has been so far gratified as to enable him to explain all the various phenomena, which his professional habits are every day presenting to his view.

As every particular science is in this manner connected with others, to which it naturally directs the attention, so all the pursuits of life, whether they terminate in speculation or action, are connected with that general science, which has the human mind for its object. The powers of the understanding are instruments which all men employ; and his curiosity must be small indeed, who passes through life in a total ignorance of faculties, which his wants and necessities force him habitually to exercise, and which so remarkably distinguish man from the lower animals. The active principles of our nature, which, by their various modifications and combinations, give rise to all the moral differences among men, are fitted, in a still higher degree, if possible, to interest those, who are either disposed to reflect on their own characters, or to observe, with attention, the cha-

racters of others. The phenomena resulting from these faculties and principles of the mind, are every moment soliciting our notice; and open to our examination, a field of discovery, as inexhaustible as the phenomena of the material world; and exhibiting not less striking marks of divine wisdom.

While all the sciences, and all the pursuits of life, have this common tendency to lead our inquiries to the philosophy of human nature, this last branch of knowledge borrows its principles from no other science whatever. Hence there is something in the study of it, which is peculiarly gratifying to a reflecting and inquisitive mind; and something in the conclusions to which it leads, on which the mind rests with peculiar satisfaction. Till once our opinions are in some degree fixed with respect to it, we abandon ourselves, with reluctance, to particular scientific investigations; and on the other hand, a general knowledge of such of its principles as are most fitted to excite the curiosity, not only prepares us for engaging in other pursuits with more liberal and comprehensive views, but leaves us at liberty to prosecute them with a more undivided and concentrated attention.

It is not, however, merely as a subject of speculative curiosity, that the principles of the human mind deserve a careful examination. The advantages to be expected from a successful analysis of it are various; and some of them of such importance, as to render it astonishing, that, amidst all the success with which the subordinate sciences have been cultivated, this, which comprehends the prin-

ciples of all of them, should be still suffered to remain in its infancy.

I shall endeavour to illustrate a few of these advantages, beginning with what appears to me to be the most important of any; the light, which a philosophical analysis of the principles of the mind would necessarily throw, on the subjects of intellectual and moral education.

The most essential objects of education are the two following: First, to cultivate all the various principles of our nature, both speculative and active, in such a manner as to bring them to the greatest perfection of which they are susceptible; and, Secondly, by watching over the impressions and associations which the mind receives in early life, to secure it against the influence of prevailing errors; and, as far as possible, to engage its prepossessions on the side of truth. It is only upon a philosophical analysis of the mind, that a systematical plan can be founded, for the accomplishment of either of these purposes.

There are few individuals, whose education has been conducted in every respect with attention and judgment. Almost every man of reflection is conscious, when he arrives at maturity, of many defects in his mental powers; and of many inconvenient habits, which might have been prevented or remedied in his infancy or youth. Such a consciousness is the first step towards improvement; and the person who feels it, if he is possessed of resolution and steadiness, will not scruple to begin, even in advanced years, a new course of education for himself. The degree of

reflection and observation, indeed, which is necessary for this purpose, cannot be expected from any one at a very early period of life, as these are the last powers of the mind which unfold themselves; but it is never too late to think of the improvement of our faculties; and much progress may be made, in the art of applying them successfully to their proper objects, or in obviating the inconveniences resulting from their imperfection, not only in manhood, but in old age.

It is not, however, to the mistakes of our early instructors, that all our intellectual defects are to be ascribed. There is no profession or pursuit which has not habits peculiar to itself; and which does not leave some powers of the mind dormant, while it exercises and improves the rest. If we wish, therefore, to cultivate the mind to the extent of its capacity, we must not rest satisfied with that employment which its faculties receive from our particular situation in life. It is not in the awkward and professional form of a mechanic, who has strengthened particular muscles of his body by the habits of his trade, that we are to look for the perfection of our animal nature: neither is it among men of confined pursuits, whether speculative or active, that we are to expect to find the human mind in its highest state of cultivation. A variety of exercises is necessary to preserve the animal frame in vigour and beauty; and a variety of those occupations which literature and science afford, added to a promiscuous intercourse with the world, in the habits of conversation and business, is no less necessary for the improvement of the understanding. I acknowledge, that

there are some professions, in which a man of very confined acquisitions may arrive at the first eminence; and in which he will perhaps be the more likely to excel, the more he has concentrated the whole force of his mind to one particular object. But such a person, however distinguished in his own sphere, is educated merely to be a literary artisan; and neither attains the perfection, nor the happiness of his nature. "That education only can "be considered as complete and generous, which" (in the language of Milton) "fits a man to perform "justly, skilfully, and magnanimously, all the of- "fices, both private and public, of peace, and of "war." *

I hope it will not be supposed, from the foregoing observations, that they are meant to recommend an indiscriminate attention to all the objects of speculation and of action. Nothing can be more evident, than the necessity of limiting the field of our exertion, if we wish to benefit society by our labours. But it is perfectly consistent with the most intense application to our favourite pursuit, to cultivate that general acquaintance with letters and with the world, which may be sufficient to enlarge the mind, and to preserve it from any danger of contracting the pedantry of a particular profession. In many cases, (as was already remarked), the sciences reflect light on each other; and the general acquisitions which we have made in other pursuits, may furnish us with useful helps for the farther prosecution of our own. But even in those instances in which the case is otherwise, and in which these

* Tractate of Education.

liberal accomplishments must be purchased by the sacrifice of a part of our professional eminence, the acquisition of them will amply repay any loss we may sustain. It ought not to be the leading object of any one, to become an eminent metaphysician, mathematician, or poet; but to render himself happy as an individual, and an agreeable, a respectable, and an useful member of society. A man who loses his sight, improves the sensibility of his touch: but who would consent, for such a recompence, to part with the pleasures which he receives from the eye?

It is almost unnecessary for me to remark, how much individuals would be assisted in the proper and liberal culture of the mind, if they were previously led to take a comprehensive survey of human nature in all its parts; of its various faculties, and powers, and sources of enjoyment; and of the effects which are produced on these principles by particular situations. It is such a knowledge alone of the capacities of the mind, that can enable a person to judge of his own acquisitions; and to employ the most effectual means for supplying his defects, and removing his inconvenient habits. Without some degree of it, every man is in danger of contracting bad habits, before he is aware; and of suffering some of his powers to go to decay, for want of proper exercise.

If the business of early education were more thoroughly, and more generally, understood, it would be less necessary for individuals, when they arrive at maturity, to form plans of improvement for themselves. But education never can be systematically directed to its proper objects, till we have obtained, not only an accurate analysis of the general prin-

ciples of our nature, and an account of the most important laws which regulate their operation; but an explanation of the various modifications and combinations of these principles, which produce that diversity of talents, genius, and character, we observe among men. To instruct youth in the languages, and in the sciences, is comparatively of little importance, if we are inattentive to the habits they acquire; and are not careful in giving, to all their different faculties, and all their different principles of action, a proper degree of employment. Abstracting entirely from the culture of their moral powers, how extensive and difficult is the business of conducting their intellectual improvement! To watch over the associations which they form in their tender years; to give them early habits of mental activity; to rouse their curiosity, and to direct it to proper objects; to exercise their ingenuity and invention; to cultivate in their minds a turn for speculation, and at the same time preserve their attention alive to the objects around them; to awaken their sensibilities to the beauties of nature, and to inspire them with a relish for intellectual enjoyment; — these form but a part of the business of education; and yet the execution even of this part requires an acquaintance with the general principles of our nature, which seldom falls to the share of those to whom the instruction of youth is commonly intrusted.* — Nor will such a theoretical knowledge of the human mind, as I have now described, be always sufficient in practice. An uncommon degree of sagacity is frequently requisite, in order to accommodate general rules to particular tempers, and cha-

racters. — In whatever way we chuse to account for it, whether by original organisation, or by the operation of moral causes, in very early infancy; no fact can be more undeniable, than that there are important differences discernible in the minds of children, previous to that period at which, in general, their intellectual education commences. There is, too, a certain hereditary character (whether resulting from physical constitution, or caught from imitation and the influence of situation), which appears remarkably in particular families. One race, for a succession of generations, is distinguished by a genius for the abstract sciences, while it is deficient in vivacity, in imagination, and in taste: another is no less distinguished for wit, and gaiety, and fancy; while it appears incapable of patient attention, or of profound research. The system of education which is proper to be adopted in particular cases, ought, undoubtedly, to have some reference to these circumstances; and to be calculated, as much as possible, to develope and to cherish those intellectual and active principles, in which a natural deficiency is most to be apprehended. Montesquieu, and other speculative politicians, have insisted much on the reference which education and laws should have to climate. I shall not take upon me to say, how far their conclusions on this subject are just; but I am fully persuaded, that there is a foundation in philosophy, and good sense, for accommodating, at a very early period of life, the education of individuals to those particular turns of mind, to which, from hereditary propensities, or from moral situation, they may be presumed to have a natural tendency.

There are few subjects more hackneyed than that of education; and yet there is none, upon which the opinions of the world are still more divided. Nor is this surprising; for most of those who have speculated concerning it, have confined their attention chiefly to incidental questions about the comparative advantages of public or private instruction, or the utility of particular languages or sciences; without attempting a previous examination of those faculties and principles of the mind, which it is the great object of education to improve. Many excellent detached observations, indeed, both on the intellectual and moral powers, are to be collected from the writings of ancient and modern authors; but I do not know, that in any language an attempt has been made to analyse and illustrate the principles of human nature, in order to lay a philosophical foundation for their proper culture.

I have even heard some very ingenious and intelligent men dispute the propriety of so systematical a plan of instruction. The most successful and splendid exertions, both in the sciences and arts, (it has been frequently remarked), have been made by individuals, in whose minds the seeds of genius were allowed to shoot up, wild and free; while, from the most careful and skilful tuition, seldom any thing results above mediocrity. I shall not, at present, enter into any discussions with respect to the certainty of the fact on which this opinion is founded. Supposing the fact to be completely established, it must still be remembered, that originality of genius does not always imply vigour and comprehensiveness, and liberality of mind; and that it is desirable only,

in so far as it is compatible with these more valuable qualities. I already hinted, that there are some pursuits, in which, as they require the exertion only of a small number of our faculties, an individual, who has a natural turn for them, will be more likely to distinguish himself, by being suffered to follow his original bias, than if his attention were distracted by a more liberal course of study. But wherever such men are to be found, they must be considered, on the most favourable supposition, as having sacrificed, to a certain degree, the perfection and the happiness of their nature, to the amusement or instruction of others. It is, too, in times of general darkness and barbarism, that what is commonly called originality of genius most frequently appears: and surely the great aim of an enlightened and benevolent philosophy, is not to rear a small number of individuals, who may be regarded as prodigies in an ignorant and admiring age, but to diffuse, as widely as possible, that degree of cultivation which may enable the bulk of a people to possess all the intellectual and moral improvement of which their nature is susceptible. "Original genius" (says Voltaire) "occurs but seldom in a nation where the literary taste "is formed. The number of cultivated minds which "there abound, like the trees in a thick and flourishing forest, prevent any single individual from "rearing his head far above the rest. Where trade "is in few hands, we meet with a small number of "over-grown fortunes in the midst of a general "poverty: in proportion as it extends, opulence becomes general, and great fortunes rare. It is, "precisely, because there is at present much light,

" and much cultivation, in France, that we are led " to complain of the want of superior genius."

To what purpose, indeed, it may be said, all this labour? Is not the importance of every thing to man, to be ultimately estimated by its tendency to promote his happiness? And is not our daily experience sufficient to convince us, that this is, in general, by no means proportioned to the culture which his nature has received? — Nay, is there not some ground for suspecting, that the lower orders of men enjoy, on the whole, a more enviable condition, than their more enlightened and refined superiors?

The truth, I apprehend, is, that happiness, in so far as it arises from the mind itself, will be always proportioned to the degree of perfection which its powers have attained; but that, in cultivating these powers, with a view to this most important of all objects, it is essentially necessary that such a degree of attention be bestowed on all of them, as may preserve them in that state of relative strength, which appears to be agreeable to the intentions of nature. In consequence of an exclusive attention to the culture of the imagination, the taste, the reasoning faculty, or any of the active principles, it is possible that the pleasures of human life may be diminished, or its pains increased; but the inconveniences which are experienced in such cases, are not to be ascribed to education, but to a partial and injudicious education. In such cases, it is possible, that the poet, the metaphysician, or the man of taste and refinement, may appear to disadvantage, when compared with the vulgar; for such is the benevolent appointment of Providence with respect to the lower

orders, that, although not one principle of their nature be completely unfolded, the whole of these principles preserve among themselves, that balance which is favourable to the tranquillity of their minds, and to a prudent and steady conduct in the limited sphere which is assigned to them, far more completely, than in those of their superiors, whose education has been conducted on an erroneous or imperfect system: but all this, far from weakening the force of the foregoing observations, only serves to demonstrate how impossible it always will be, to form a rational plan for the improvement of the mind, without an accurate and comprehensive knowledge of the principles of the human constitution.

The remarks which have been already made, are sufficient to illustrate the dangerous consequences which are likely to result from a partial and injudicious cultivation of the mind; and, at the same time, to point out the utility of the intellectual philosophy, in enabling us to preserve a proper balance among all its various faculties, principles of action, and capacities of enjoyment. Many additional observations might be offered, on the tendency which an accurate analysis of its powers might probably have, to suggest rules for their farther improvement, and for a more successful application of them to their proper purposes: but this subject I shall not prosecute at present, as the illustration of it is one of the leading objects of the following work.—That the memory, the imagination, or the reasoning faculty, are to be instantly strengthened in consequence of our speculations concerning their nature, it would be absurd

to suppose; but it is surely far from being unreasonable to think, that an acquaintance with the laws which regulate these powers, may suggest some useful rules for their gradual cultivation; for remedying their defects, in the case of individuals, and even for extending those limits, which nature seems, at first view, to have assigned them.

To how great a degree of perfection the intellectual and moral nature of man is capable of being raised by cultivation, it is difficult to conceive. The effects of early, continued, and systematical education, in the case of those children who are trained, for the sake of gain, to feats of strength and agility, justify, perhaps, the most sanguine views which it is possible for a philosopher to form, with respect to the improvement of the species.

I now proceed to consider, how far the philosophy of mind may be useful in accomplishing the second object of education; by assisting us in the management of early impressions and associations.

By far the greater part of the opinions on which we act in life, are not the result of our own investigations; but are adopted implicitly, in infancy and youth, upon the authority of others. Even the great principles of morality, although implanted in every heart, are commonly aided and cherished, at least to a certain degree, by the care of our instructors. — All this is undoubtedly agreeable to the intentions of nature; and, indeed, were the case otherwise, society could not subsist; for nothing can be more evident, than that the bulk of mankind, condemned as they are to laborious occupations, which are incompatible with intellectual improvement, are

perfectly incapable of forming their own opinions on some of the most important subjects that can employ the human mind. It is evident, at the same time, that as no system of education is perfect, a variety of prejudices must, in this way, take an early hold of our belief; so as to acquire over it an influence not inferior to that of the most incontrovertible truths. When a child hears, either a speculative absurdity, or an erroneous principle of action, recommended and enforced daily, by the same voice which first conveyed to it those simple and sublime lessons of morality and religion which are congenial to its nature, is it to be wondered at, that, in future life, it should find it so difficult to eradicate prejudices which have twined their roots with all the essential principles of the human frame? — If such, however, be the obvious intentions of nature, with respect to those orders of men who are employed in bodily labour, it is equally clear, that she meant to impose it as a double obligation on those who receive the advantages of a liberal education, to examine, with the most scrupulous care, the foundation of all those received opinions, which have any connection with morality, or with human happiness. If the multitude must be led, it is of consequence, surely, that it should be led by enlightened conductors; by men who are able to distinguish truth from error; and to draw the line between those prejudices which are innocent or salutary, (if indeed there are any prejudices which are really salutary,) and those which are hostile to the interests of virtue and of mankind.

In such a state of society as that in which we live, the prejudices of a moral, a political, and a religious nature, which we imbibe in early life, are so various, and at the same time so intimately blended with the belief we entertain of the most sacred and important truths, that a great part of the life of a philosopher must necessarily be devoted, not so much to the acquisition of new knowledge, as to unlearn the errors to which he had been taught to give an implicit assent, before the dawn of reason and reflexion. And unless he submit in this manner to bring all his opinions to the test of a severe examination, his ingenuity, and his learning, instead of enlightening the world, will only enable him to give an additional currency, and an additional authority, to establish errors. To attempt such a struggle against early prejudices, is, indeed, the professed aim of all philosophers; but how few are to be found who have force of mind sufficient for accomplishing their object; and who, in freeing themselves from one set of errors, do not allow themselves to be carried away with another? To succeed in it completely, Lord Bacon seems to have thought, (in one of the most remarkable passages of his writings,) to be more than can well be expected from human frailty. "Nemo adhuc tanta mentis constantia "inventus est, ut decreverit, et sibi imposuerit, "theorias et notiones communes penitus abolere, "et intellectum abrasum et æquum ad particularia, "de integro, applicare. Itaque illa ratio humana, "quam habemus, ex multa fide, et multo etiam "casu, nec non ex puerilibus, quas primo hausi- "mus, notionibus, farrago quædam est, et con-

" geries. Quod siquis, ætate matura, et sensibus " integris, et mente repurgata, se ad experientiam, " et ad particularia de integro applicet, de eo me- " lius sperandum est."

Nor is it merely in order to free the mind from the influence of error, that it is useful to examine the foundation of established opinions. It is such an examination alone, that in an inquisitive age like the present, can secure a philosopher from the danger of unlimited scepticism. To this extreme, indeed, the complexion of the times is more likely to give him a tendency, than to implicit credulity. In the former ages of ignorance and superstition, the intimate association which had been formed in the prevailing systems of education, between truth and error, had given to the latter, an ascendant over the minds of men, which it could never have acquired, if divested of such an alliance. The case has, of late years, been most remarkably reversed: the common sense of mankind, in consequence of the growth of a more liberal spirit of inquiry, has revolted against many of those absurdities, which had so long held human reason in captivity; and it was, perhaps, more than could reasonably have been expected, that, in the first moments of their emancipation, philosophers should have stopped short, at the precise boundary, which cooler reflection, and more moderate views, would have prescribed. The fact is, that they have passed far beyond it; and that, in their zeal to destroy prejudices, they have attempted to tear up by the roots, many of the best and happiest and most essential principles of our nature. Having remarked the powerful influence of education over the mind,

they have concluded, that man is wholly a factitious being; not recollecting, that this very susceptibility of education presupposes certain original principles, which are common to the whole species; and that, as error can only take a permanent hold of a candid mind by being grafted on truths, which it is unwilling or unable to eradicate; even the influence, which false and absurd opinions occasionally acquire over the belief, instead of being an argument for universal scepticism, is the most decisive argument against it; inasmuch as it shews, that there are some truths so incorporated and identified with our nature, that they can reconcile us even to the absurdities and contradictions with which we suppose them to be inseparably connected. The sceptical philosophers, for example, of the present age, have frequently attempted to hold up to ridicule, those contemptible and puerile superstitions, which have disgraced the creeds of some of the most enlightened nations; and which have not only commanded the assent, but the reverence, of men of the most accomplished understandings. But these histories of human imbecility are, in truth, the strongest testimonies which can be produced, to prove, how wonderful is the influence of the fundamental principles of morality over the belief; when they are able to sanctify, in the apprehensions of mankind, every extravagant opinion, and every unmeaning ceremony, which early education has taught us to associate with them.

That implicit credulity is a mark of a feeble mind, will not be disputed; but it may not perhaps be as generally acknowledged, that the case is the same

with unlimited scepticism: on the contrary, we are sometimes apt to ascribe this disposition to a more than ordinary vigour of intellect. Such a prejudice was by no means unnatural at that period in the history of modern Europe, when reason first began to throw off the yoke of authority; and when it unquestionably required a superiority of understanding, as well as of intrepidity, for an individual to resist the contagion of prevailing superstition. But in the present age, in which the tendency of fashionable opinions is directly opposite to those of the vulgar; the philosophical creed, or the philosophical scepticism of by far the greater number of those who value themselves on an emancipation from popular errors, arises from the very same weakness, with the credulity of the multitude: nor is it going too far to say, with Rousseau, that "He, who, in the "end of the eighteenth century, has brought him-"self to abandon all his early principles without dis-"crimination, would probably have been a bigot in "the days of the League." In the midst of these contrary impulses, of fashionable and of vulgar prejudices, he alone evinces the superiority and the strength of his mind, who is able to disentangle truth from error; and to oppose the clear conclusions of his own unbiassed faculties, to the united clamours of superstition, and of false philosophy.—Such are the men, whom nature marks out to be the lights of the world; to fix the wavering opinions of the multitude, and to impress their own characters on that of their age.

For securing the mind completely from the weaknesses I have now been describing, and enabling it to

maintain a steady course of inquiry, between implicit credulity, and unlimited scepticism, the most important of all qualities is a sincere and devoted attachment to truth; which seldom fails to be accompanied with a manly confidence in the clear conclusions of human reason. It is such a confidence, united (as it generally is) with personal intrepidity, which forms what the French writers call force of character; one of the rarest endowments, it must be confessed, of our species; but which, of all endowments, is the most essential for rendering a philosopher happy in himself, and a blessing to mankind.

There is, I think, good reason for hoping, that the sceptical tendency of the present age, will be only a temporary evil. While it continues, however, it is an evil of the most alarming nature; and, as it extends, in general, not only to religion and morality, but, in some measure, also to politics, and the conduct of life, it is equally fatal to the comfort of the individual, and to the improvement of society. Even in its most inoffensive form, when it happens to be united with a peaceable disposition and a benevolent heart, it cannot fail to have the effect of damping every active and patriotic exertion. Convinced that truth is placed beyond the reach of the human faculties; and doubtful how far the prejudices we despise may not be essential to the well-being of society, we resolve to abandon completely all speculative inquiries; and suffering ourselves to be carried quietly along with the stream of popular opinions, and of fashionable manners, determine to amuse ourselves, the best way we can, with business or pleasure, during our short passage through

this scene of illusions. But he who thinks more favourably of the human powers, and who believes that reason was given to man to direct him to his duty and his happiness, will despise the suggestions of this timid philosophy; and while he is conscious that he is guided in his inquiries only by the love of truth, will rest assured that their result will be equally favourable to his own comfort, and to the best interests of mankind. What, indeed, will be the particular effects in the first instance, of that general diffusion of knowledge, which the art of printing must sooner or later produce, and of that spirit of reformation with which it cannot fail to be accompanied, it is beyond the reach of human sagacity to conjecture; but unless we chuse to abandon ourselves entirely to a desponding scepticism, we must hope and believe, that the progress of human reason can never be a source of permanent disorder to the world; and that they alone have cause to apprehend the consequences, who are led, by the imperfection of our present institutions, to feel themselves interested in perpetuating the prejudices, and follies, of their species.

From the observations which have been made, it sufficiently appears, that in order to secure the mind, on the one hand, from the influence of prejudice; and on the other, from a tendency to unlimited scepticism; it is necessary that it should be able to distinguish the original and universal principles and laws of human nature, from the adventitious effects of local situation. But if, in the case of an individual, who has received an imperfect or erroneous education, such a knowledge puts it in his power to cor-

rect, to a certain degree, his own bad habits, and to surmount his own speculative errors; it enables him to be useful, in a much higher degree, to those whose education he has an opportunity of superintending from early infancy. Such, and so permanent is the effect of first impressions, on the character, that although a philosopher may succeed, by perseverance, in freeing his reason from the prejudices with which it was entangled, they will still retain some hold of his imagination, and his affections: and, therefore, however enlightened his understanding may be in his hours of speculation, his philosophical opinions will frequently lose their influence over his mind, in those very situations in which their practical assistance is most required: — when his temper is soured by misfortune; or when he engages in the pursuits of life, and exposes himself to the contagion of popular errors. His opinions are supported merely by speculative arguments; and instead of being connected with any of the active principles of his nature, are counteracted and thwarted by some of the most powerful of them. How different would the case be, if education were conducted from the beginning with attention and judgment? Were the same pains taken, to impress truth on the mind in early infancy, that is often taken to inculcate error, the great principles of our conduct would not only be juster than they are; but, in consequence of the aid which they would receive from the imagination and the heart, trained to conspire with them in the same direction, they would render us happier in ourselves, and would influence our practice more powerfully and more habitually. There is surely nothing in error,

which is more congenial to the mind than truth. On the contrary, when exhibited separately, and alone to the understanding, it shocks our reason, and provokes our ridicule; and it is only, (as I had occasion already to remark,) by an alliance with truths, which we find it difficult to renounce, that it can obtain our assent, or command our reverence. What advantages, then, might be derived from a proper attention to early impressions and associations, in giving support to those principles which are connected with human happiness? The long reign of error in the world, and the influence it maintains, even in an age of liberal inquiry; far from being favourable to the supposition, that human reason is destined to be for ever the sport of prejudice and absurdity, demonstrates the tendency which there is to permanence in established opinions, and in established institutions; and promises an eternal stability to true philosophy, when it shall once have acquired the ascendant; and when proper means shall be employed to support it, by a more perfect system of education.

Let us suppose, for a moment, that this happy æra were arrived, and that all the prepossessions of childhood and youth were directed to support the pure and sublime truths of an enlightened morality. With what ardour, and with what transport, would the understanding, when arrived at maturity, proceed in the search of truth; when, instead of being obliged to struggle, at every step, with early prejudices, its office was merely to add the force of philosophical conviction, to impressions, which are equally delightful to the imagination, and dear to

the heart! The prepossessions of childhood would, through the whole of life, be gradually acquiring strength from the enlargement of our knowledge; and, in their turn, would fortify the conclusions of our reason, against the sceptical suggestions of disappointment or melancholy.

Our daily experience may convince us, how susceptible the tender mind is of deep impressions; and what important and permanent effects are produced on the characters, and the happiness of individuals, by the casual associations formed in childhood among the various ideas, feelings, and affections, with which they were habitually occupied. It is the business of education not to counteract this constitution of nature, but to give it a proper direction: and the miserable consequences to which it leads, when under an improper regulation, only shew, what an important instrument of human improvement it might be rendered, in more skilful hands. If it be possible to interest the imagination and the heart in favour of error, it is, at least, no less possible to interest them in favour of truth. If it be possible to extinguish all the most generous and heroic feelings of our nature, by teaching us to connect the idea of them with those of guilt and impiety; it is surely equally possible to cherish and strengthen them, by establishing the natural alliance between our duty and our happiness. If it be possible for the influence of fashion to veil the native deformity of vice, and to give to low and criminal indulgences the appearance of spirit, of elegance, and of gaiety; can we doubt of the possibility of connecting, in the tender mind, these pleasing associ-

ations, with pursuits that are truly worthy and honourable?—There are few men to be found, among those who have received the advantages of a liberal education, who do not retain, through life, that admiration of the heroic ages of Greece and Rome, with which the classical authors once inspired them. It is, in truth, a fortunate prepossession, on the whole, and one, of which I should be sorry to counteract the influence. But are there not others of equal importance to morality and to happiness, with which the mind might, at the same period of life, be inspired? If the first conceptions, for example, which an infant formed of the Deity, and its first moral perceptions, were associated with the early impressions produced on the heart by the beauties of nature, or the charms of poetical description, those serious thoughts which are resorted to, by most men, merely as a source of consolation in adversity, and which, on that very account, are frequently tinctured with some degree of gloom, would recur spontaneously to the mind, in its best and happiest hours; and would insensibly blend themselves with all its purest and most refined enjoyments.

In those parts of Europe, where the prevailing opinions involve the greatest variety of errors and corruptions, it is, I believe, a common idea with many respectable and enlightened men, that, in every country, it is most prudent to conduct the religious instruction of youth upon the plan which is prescribed by the national establishment; in order that the pupil, according to the vigour or feebleness of his mind, may either shake off, in future life, the prejudices of the nursery, or die in the popular per-

suasion. This idea, I own, appears to me to be equally ill founded and dangerous. If religious opinions have, as will not be disputed, a powerful influence on the happiness, and on the conduct of mankind, does not humanity require of us, to rescue as many victims as possible from the hands of bigotry; and to save them from the cruel alternative, of remaining under the gloom of a depressing superstition, or of being distracted by a perpetual conflict between the heart and the understanding?——It is an enlightened education alone, that, in most countries of Europe, can save the young philosopher from that anxiety and despondence, which every man of sensibility, who, in his childhood, has imbibed the popular opinions, must necessarily experience, when he first begins to examine their foundation; and, what is of still greater importance, which can save him, during life, from that occasional scepticism, to which all men are liable, whose systems fluctuate with the inequalities of their spirits, and the variations of the atmosphere.

I shall conclude this subject with remarking, that, although in all moral and religious systems, there is a great mixture of important truth; and although it is, in consequence of this alliance, that errors and absurdities are enabled to preserve their hold of the belief, yet it is commonly found, that, in proportion as an established creed is complicated in its dogmas and in its ceremonies, and in proportion to the number of accessory ideas which it has grafted upon the truth, the more difficult is it, for those who have adopted it in childhood, to emancipate themselves completely from its influence; and, in those cases in

which they at last succeed, the greater is their danger of abandoning, along with their errors, all the truths which they had been taught to connect with them. The Roman Catholic system is shaken off with much greater difficulty, than those which are taught in the reformed churches; but when it loses its hold of the mind, it much more frequently prepares the way for unlimited scepticism. The causes of this I may perhaps have an opportunity of pointing out, in treating of the association of ideas.

I have now finished all that I think necessary to offer at present, on the application of the philosophy of mind to the subject of education. To some readers, I am afraid, that what I have advanced on the subject, will appear to border upon enthusiasm; and I will not attempt to justify myself against the charge. I am well aware of the tendency, which speculative men sometimes have, to magnify the effects of education, as well as to entertain too sanguine views of the improvement of the world; and I am ready to acknowledge, that there are instances of individuals, whose vigour of mind is sufficient to overcome every thing that is pernicious in their early habits: but I am fully pursuaded, that these instances are rare; and that, by far the greater part of mankind continue, through life, to pursue the same tract into which they have been thrown, by the accidental circumstances of situation, instruction, and example.

PART SECOND.

SECTION II.

Continuation of the same Subject.

THE remarks which have been hitherto made, on the utility of the philosophy of the human mind, are of a very general nature, and apply equally to all descriptions of men. Besides, however, these more obvious advantages of the study, there are others, which, though less striking, and less extensive in their application, are nevertheless, to some particular classes of individuals, of the highest importance. Without pretending to exhaust the subject, I shall offer a few detached observations upon it, in this section.

I already took notice, in general terms, of the common relation which all the different branches of our knowledge bear to the philosophy of the human mind. In consequence of this relation, it not only forms an interesting object of curiosity to literary men of every denomination; but, if successfully prosecuted, it cannot fail to furnish useful lights for directing their inquiries; whatever the nature of the subjects may be, which happen to engage their attention.

In order to be satisfied of the justness of this observation, it is sufficient to recollect, that to the philosophy of the mind are to be referred, all our inquiries concerning the divisions and the classifications of the objects of human knowledge; and also, all the various rules, both for the investigation, and

the communication, of truth. These general views of science, and these general rules of method, ought to form the subjects of a rational and useful logic; a study, undoubtedly, in itself of the greatest importance and dignity, but in which less progress has hitherto been made than is commonly imagined.

I shall endeavour to illustrate, very briefly, a few of the advantages which might be expected to result from such a system of logic, if properly executed.

I. And, in the first place, it is evident that it would be of the highest importance in all the sciences, (in some of them, indeed, much more than in others,) to exhibit a precise and steady idea of the objects which they present to our inquiry. —— What was the principal circumstance which contributed to mislead the ancients, in their physical researches? Was it not their confused and wavering notions about the particular class of truths, which it was their business to investigate? It was owing to this that they were led to neglect the obvious phenomena and laws of moving bodies; and to indulge themselves in conjectures about the efficient causes of motion, and the nature of those minds, by which they conceived the particles of matter to be animated; and that they so often blended the history of facts, with their metaphysical speculations. In the present state of science, indeed, we are not liable to such mistakes in natural philosophy; but it would be difficult to mention any other branch of knowledge, which is entirely exempted from them. In metaphysics, I might almost say, they are at the bottom of all our

controversies. In the celebrated dispute, for example, which has been so long carried on, about the explanation given by the ideal theory of the phenomena of perception, the whole difficulty arose from this, that philosophers had no precise notion of the point they wished to ascertain; and now, that the controversy has been brought to a conclusion, (as I think all men of candour must confess it to have been by Dr. Reid,) it will be found, that his doctrine on the subject throws no light whatever, on what was generally understood to be the great object of inquiry; I mean, on the mode of communication between the mind and the material world: and, in truth, amounts only to a precise description of the fact, stripped of all hypothesis, and stated in such a manner as to give us a distinct view of the insurmountable limits which nature has in this instance prescribed to our curiosity. The same observation may be made, on the reasonings of this profound and original author, with respect to some metaphysical questions that had been started on the subject of vision; in particular, concerning the cause of our seeing objects single with two eyes, and our seeing objects erect, by means of inverted images on the retina.

If we were to examine, in like manner, the present state of morals, of jurisprudence, of politics, and of philosophical criticism; I believe, we should find, that the principal circumstance which retards their progress, is the vague and indistinct idea, which those who apply to the study of them have formed to themselves of the objects of their researches. Were these objects once clearly de-

fined, and the proper plan of inquiry for attaining them illustrated by a few unexceptionable models, writers of inferior genius would be enabled to employ their industry to much more advantage; and would be prevented from adding to that rubbish, which, in consequence of the ill-directed ingenuity of our predecessors, obstructs our progress in the pursuit of truth.

As a philosophical system of logic would assist us in our particular scientific investigations, by keeping steadily in our view the attainable objects of human curiosity; so, by exhibiting to us the relation in which they all stand to each other, and the relation which they all bear to what ought to be their common aim, the advancement of human happiness, it would have a tendency to confine industry and genius to inquiries which are of real practical utility; and would communicate a dignity to the most subordinate pursuits, which are in any respect subservient to so important a purpose. When our views are limited to one particular science, to which we have been led to devote ourselves by taste or by accident, the course of our studies resembles the progress of a traveller through an unexplored country; whose wanderings, from place to place, are determined merely by the impulse of occasional curiosity; and whose opportunities of information must necessarily be limited to the objects which accidentally present themselves to his notice. It is the philosophy of the mind alone, which, by furnishing us with a general map of the field of human knowledge, can enable us to proceed with steadiness, and in an

useful direction; and while it gratifies our curiosity, and animates our exertions, by exhibiting to us all the various bearings of our journey, can conduct us to those eminences from whence the eye may wander over the vast and unexplored regions of science. Lord Bacon was the first person who took this comprehensive view of the different departments of study; and who pointed out, to all the classes of literary men, the great end to which their labours should conspire; the multiplication of the sources of human enjoyment, and the extension of man's dominion over nature. Had this object been kept steadily in view by his followers, their discoveries, numerous and important as they have been, would have advanced with still greater rapidity, and would have had a much more extensive influence on the practical arts of life.*

From such a system of logic, too, important assistance might be expected, for reforming the established plan of public or academical education. It is melancholy to reflect on the manner in which this is carried on, in most, perhaps, I might say, in all the countries of Europe; and that in an age of comparative light and liberality, the intellectual

* Omnium autem gravissimus error in deviatione ab ultimo doctrinarum fine consistit. Appetunt enim homines scientiam, alii ex insitâ curiositate et irrequietâ; alii animi causâ et delectationis, alii existimationis gratiâ; alii contentionis ergo, atque ut in disserendo superiores sint: plerique propter lucrum et victum: paucissimi, ut donum rationis, divinitus datum, in usus humani generis impendant.——Hoc enim illud est, quod revera doctrinam atque artes condecoraret, et attolleret, si contemplatio, et actio, arctiore quam adhuc vinculo copularentur. De Aug. Scient. lib. i.

and moral characters of youth should continue to be formed on a plan devised by men who were not only strangers to the business of the world, but who felt themselves interested in opposing the progress of useful knowledge.

For accomplishing a reformation in the plan of academical study, on rational and systematical principles, it is necessary, in the first place, to consider the relation in which the different branches of literature, and the different arts and sciences, stand to each other, and to the practical purposes of life: and secondly, to consider them in relation to the human mind, in order to determine the arrangement, best fitted for unfolding and maturing its faculties. Many valuable hints towards such a work may be collected from Lord Bacon's writings.

II. Another very important branch of a rational system of logic (as I had occasion already to observe) ought to be; to lay down the rules of investigation which it is proper to follow in the different sciences. In all of these, the faculties of the understanding are the instruments with which we operate; and without a previous knowledge of their nature, it is impossible to employ them to the best advantage. In every exercise of our reasoning and of our inventive powers, there are general laws which regulate the progress of the mind; and when once these laws are ascertained, they enable us to speculate and to invent, for the future, with more system, and with a greater certainty of success. — In the mechanical arts, it is well known, how much time and ingenuity are misapplied, by those who acquire their practical skill, by their own trials, undirected by the pre-

cepts or example of others. What we call the rules of an art, are merely a collection of general observations, suggested by long experience, with respect to the most compendious and effectual means of performing every different step of the processes which the art involves. In consequence of such rules, the artist is enabled to command the same success in all his operations, for which the unskilled workman must trust to a happy combination of accidental circumstances; the misapplications, too, of the labour of one race are saved to the next; and the acquisition of practical address is facilitated, by confining its exertions to one direction. —— The analogy is perfect, in those processes which are purely intellectual; and to regulate which, is the great object of logic. In the case of individuals, who have no other guide to direct them in their inquiries than their own natural sagacity, much time and ingenuity must inevitably be thrown away, in every exertion of the inventive powers. In proportion, however, to the degree of their experience and observation, the number of these misapplications will diminish; and the power of invention will be enabled to proceed with more certainty and steadiness to its object. The misfortune is, that as the aids, which the understanding derives from experience, are seldom recorded in writing, or even described in words, every succeeding inquirer finds himself, at the commencement of his philosophical pursuits, obliged to struggle with the same disadvantages which had retarded the progress of his predecessors. If the more important practical rules, which habits of investigation suggest to individuals, were diligently

preserved, each generation would be placed in circumstances more favourable to invention than the preceding; and the progress of knowledge, instead of cramping original genius, would assist and direct its exertions. In the infancy of literature, indeed, its range may be more unbounded, and its accidental excursions may excite more astonishment, than in a cultivated and enlightened age; but it is only in such an age, that inventive genius can be trained by rules founded on the experience of our predecessors, in such a manner as to insure the gradual and regular improvement of science. So just is the remark of Lord Bacon: "Certo sciant "homines, artes inveniendi solidas et veras adolescere et incrementa sumere cum ipsis inventis."

The analogy between the mechanical arts, and the operations of scientific invention, might perhaps be carried further. In the former, we know how much the natural powers of man have been assisted, by the use of tools and instruments. Is it not possible to devise, in like manner, certain aids to our intellectual faculties?

That such a query is not altogether chimerical, appears from the wonderful effects of algebra (which is precisely such an instrument of thought, as I have been now alluding to) in facilitating the inquiries of modern mathematicians. Whether it might not be possible to realise a project which Leibnitz has somewhere mentioned, of introducing a similar contrivance into other branches of knowledge, I shall not take upon me to determine; but that this idea has at least some plausibility, must, I think, be evident to those who have reflected on the nature of the

general terms which abound more or less in every cultivated language; and which may be considered as one species of instrumental aid, which art has discovered to our intellectual powers. From the observations which I am afterwards to make, it will appear, that, without general terms, all our reasonings must necessarily have been limited to particulars; and, consequently, it is owing to the use of these, that the philosopher is enabled to speculate concerning classes of objects, with the same facility with which the savage or the peasant speculates concerning the individuals of which they are composed. The technical terms, in the different sciences, render the appropriate language of philosophy a still more convenient instrument of thought, than those languages which have originated from popular use; and in proportion as these technical terms improve in point of precision and comprehensiveness, they will contribute to render our intellectual progress more certain and more rapid. "While "engaged" (says Mr. Lavoisier) "in the compo-"sition of my Elements of Chemistry, I perceived, "better than I had ever done before, the truth of "an observation of Condillac, that we think only "through the medium of words; and that lan-"guages are true analytical methods. Algebra, "which, of all our modes of expression, is the most "simple, the most exact, and the best adapted to "its purpose, is, at the same time, a language and "an analytical method. The art of reasoning is "nothing more than a language well arranged." The influence which these very enlightened and philosophical views have already had on the doc-

trines of chemistry, cannot fail to be known to most of my readers.

The foregoing remarks, in so far as they relate to the possibility of assisting our reasoning and inventive powers, by new instrumental aids, may perhaps appear to be founded too much upon theory; but this objection cannot be made to the reasonings I have offered on the importance of the study of method. — To the justness of these, the whole history of science bears testimony; but more especially, the histories of Physics and of pure Geometry; which afford so remarkable an illustration of the general doctrine, as can scarcely fail to be satisfactory, even to those who are the most disposed to doubt the efficacy of art in directing the exertions of genius.

With respect to the former, it is sufficient to mention the wonderful effects which the writings of Lord Bacon have produced, in accelerating its progress. The philosophers, who flourished before his time, were, undoubtedly, not inferior to their successors, either in genius or industry: but their plan of investigation was erroneous; and their labours have produced only a chaos of fictions and absurdities. The illustrations which his works contain, of the method of induction, general as the terms are, in which they are expressed, have gradually turned the attention of the moderns to the rules of philosophising; and have led the way to those important and sublime discoveries in physics, which reflect so much honour on the present age.

The rules of philosophising, however, even in physics, have never yet been laid down with a sufficient degree of precision, minuteness, or method;

nor have they ever been stated and illustrated in so clear and popular a manner, as to render them intelligible to the generality of readers. The truth, perhaps, is; that the greater part of physical inquirers have derived what knowledge of them they possess, rather from an attention to the excellent models of investigation, which the writings of Newton exhibit, than from any of the speculations of Lord Bacon, or his commentators: and, indeed, such is the incapacity of most people for abstract reasoning, that I am inclined to think, even if the rules of inquiry were delivered in a perfectly complete and unexceptionable form, it might still be expedient to teach them to the majority of students, rather by examples, than in the form of general principles. But it does not therefore follow, that an attempt to illustrate and to methodize these rules, would be useless; for it must be remembered, that, although an original and inventive genius, like that of Newton, be sufficient to establish a standard for the imitation of his age, yet, that the genius of Newton himself was encouraged and led by the light of Bacon's philosophy.

The use which the ancient Greek geometers made of their *analysis*, affords an additional illustration of the utility of method in guiding scientific invention. To facilitate the study of this species of investigation, they wrote no less than thirty-three preparatory books; and they considered an address, in the practice of it, (or, as MARINUS calls it, a δυναμις αναλυτικη) as of much more value, than an extensive acquaintance with the principles of the science. *

* Μειζον εστι το δυναμιν αναλυτικην κτησασθαι, του πολλας αποδειξεις των επι μερους εχειν.

Indeed, it is well known, to every one who is at all conversant with geometrical investigations, that although it may be possible for a person, without the assistance of the method of analysis, to stumble accidentally on a solution, or on a demonstration; yet it is impossible for him to possess a just confidence in his own powers, or to carry on a regular plan of invention and discovery. It is well known, too, that an acquaintance with this method brings geometers much more nearly upon a level with each other, than they would be otherwise: not that it is possible, by any rules, to supersede, entirely, ingenuity and address; but, because, in consequence of the uniformity of the plan on which the method proceeds, experience communicates a certain dexterity in the use of it; which must in time give to a very ordinary degree of sagacity, a superiority, on the whole, to the greatest natural ingenuity, unassisted by rule. *

* "Mathematica multi sciunt, mathesin pauci. Aliud est enim nosse propositiones aliquot, et nonnullas ex iis obvias elicere, casu potius quam certa aliqua discurrendi norma, aliud scientiæ ipsius naturam ac indolem perspectam habere, in ejus se adyta penetrare, et ab universalibus instructum esse præceptis, quibus theoremata ac problemata innumera excogitandi, eademque demonstrandi facilitas comparetur. Ut enim pictorum vulgus prototypon sæpe sæpius exprimendo, quendam pingendi usum, nullam vero pictoriæ artis quam optica suggerit scientiam adquirit, ita multi, lectis Euclidis et aliorum geometrarum libris, eorum imitatione fingere propositiones aliquas ac demonstrare solent, ipsam tamen secretissimam difficiliorum theorematum ac problematum solvendi methodum prorsus ignorant." — Joannis de la Faille Theoremata de Centro Gravitatis, in præfat. — Antwerpiæ, 1632.

To these observations, I believe, I may add, that after all that was done by the Greek philosophers to facilitate mathematical invention, many rules still remain to be suggested, which might be of important use, even in pure geometry. A variety of such occur to every experienced mathematician, in the course of his inquiries, although, perhaps, he may not be at the trouble to state them to himself in words; and it would plainly have saved him much expence of time and thought, beside enabling him to conduct his researches on a more regular plan, if he had been taught them systematically at the commencement of his studies. The more varied, abstruse, and general investigations of the moderns, stand in need, in a much greater degree, of the guidance of philosophical principles; not only for enabling us to conduct, with skill, our particular researches, but for directing us to the different methods of reasoning, to which we ought to have recourse on different occasions. A collection of such rules would form, what might be called with propriety, the logic of mathematics; and would probably contribute greatly to the advancement of all those branches of knowledge, to which mathematical learning is subservient.

The observations which have been now made, on the importance of method in conducting physical and mathematical researches, particularly those which relate to the last of these subjects, will not apply literally to our inquiries in metaphysics, morals, or politics; because, in these sciences, our reasonings always consist of a comparatively small number of intermediate steps; and the obstacles

which retard our progress, do not, as in mathematics, arise from the difficulty of finding media of comparison among our ideas. Not, that these obstacles are less real, or more easily surmounted: on the contrary, it seems to require a still rarer combination of talents to surmount them; for how small is the number of individuals, who are qualified to think justly on metaphysical, moral, or political subjects; in comparison of those, who may be trained by practice to follow the longest processes of mathematical reasoning. From what these obstacles arise, I shall not inquire particularly at present. Some of the more important of them may be referred to the imperfections of language; to the difficulty of annexing precise and steady ideas to our words; to the difficulty, in some cases, of conceiving the subjects of our reasoning; and, in others, of discovering, and keeping in view, all the various circumstances upon which our judgment ought to proceed; and above all, to the prejudices which early impressions and associations create, to warp our opinions. —To illustrate these sources of error, in the different sciences which are liable to be affected by them, and to point out the most effectual means for guarding against them, would form another very interesting article, in a philosophical system of logic.

The method of communicating to others, the principles of the different sciences, has been as much neglected by the writers on logic, as the rules of investigation and discovery; and yet, there is certainly no undertaking whatever, in which their assistance is more indispensably requisite. The first principles of all the sciences are intimately connected with the

philosophy of the human mind; and it is the province of the logician, to state these in such a manner, as to lay a solid foundation for the superstructures which others are to rear. — It is in stating such principles, accordingly, that elementary writers are chiefly apt to fail. How unsatisfactory, for example, are the introductory chapters in most systems of natural philosophy; not in consequence of any defect of physical or of mathematical knowledge in their authors, but in consequence of a want of attention to the laws of human thought, and to the general rules of just reasoning! The same remark may be extended to the form, in which the elementary principles of many of the other sciences are commonly exhibited; and, if I am not mistaken, this want of order, among the first ideas which they present to the mind, is a more powerful obstacle to the progress of knowledge, than is generally imagined.

I shall only observe farther, with respect to the utility of the philosophy of mind, that as there are some arts, in which we not only employ the intellectual faculties as instruments, but operate on the mind as a subject; so, to those individuals who aim at excellence in such pursuits, the studies I have now been recommending are, in a more peculiar manner, interesting and important. In poetry, in painting, in eloquence, and in all the other fine arts, our success depends on the skill with which we are able to adapt the efforts of our genius to the human frame; and it is only on a philosophical analysis of the mind, that a solid foundation can be laid for their farther improvement. Man, too, is the subject on which the practical moralist and the enlightened statesman

have to operate. Of the former, it is the professed object to engage the attention of individuals to their own best interest: and to allure them to virtue and happiness, by every consideration that can influence the understanding, the imagination, or the heart. To the latter is assigned the sublimer office of seconding the benevolent intentions of Providence in the administration of human affairs; to diffuse as widely and equally as possible, among his fellow-citizens, the advantages of the social union; and, by a careful study of the constitution of man, and of the circumstances in which he is placed, to modify the political order, in such a manner as may allow free scope and operation to those principles of intellectual and moral improvement, which nature has implanted in our species.

In all these cases, I am very sensible, that the utility of systematical rules has been called in question by philosophers of note; and that many plausible arguments in support of their opinion, may be derived from the small number of individuals who have been regularly trained to eminence in the arts, in comparison of those who have been guided merely by untutored genius, and the example of their predecessors. I know, too, that it may be urged with truth, that rules have, in some cases, done more harm than good; and have misled, instead of directing, the natural exertions of the mind. But, in all such instances, in which philosophical principles have failed in producing their intended effect, I will venture to assert, that they have done so, either in consequence of errors, which were accidentally blended with them; or, in consequence of their pos-

sessing only that slight and partial influence over the genius, which enabled them to derange its previously acquired habits; without regulating its operations, upon a systematical plan, with steadiness and efficacy. In all the arts of life, whether trifling or important, there is a certain degree of skill, which may be attained by our untutored powers, aided by imitation; and this skill, instead of being perfected by rules, may, by means of them, be diminished or destroyed, if these rules are partially and imperfectly apprehended; or even if they are not so familiarized to the understanding, as to influence its exertions uniformly and habitually. In the case of a musical performer, who has learnt his art merely by the ear, the first effects of systematical instruction, are, I believe, always unfavourable. The effect is the same, of the rules of elocution, when first communicated to one who has attained, by his natural taste and good sense, a tolerable propriety in the art of reading. But it does not follow from this, that, in either of these arts, rules are useless. It only follows, that, in order to unite ease and grace with correctness, and to preserve the felicities of original genius, amidst those restraints which may give them an useful direction, it is necessary that the acquisitions of education should, by long and early habits, be rendered, in some measure, a second nature. —— The same observations will be found to apply, with very slight alterations, to arts of more serious importance. — In the art of legislation, for example, there is a certain degree of skill, which may be acquired merely from the routine of business; and when once a politician has been formed, in this manner, among the

details of office, a partial study of general principles will be much more likely to lead him astray, than to enlighten his conduct. But there is nevertheless a science of legislation, which the details of office, and the intrigues of popular assemblies, will never communicate; a science, of which the principles must be sought for in the constitution of human nature, and in the general laws which regulate the course of human affairs; and which, if ever, in consequence of the progress of reason, philosophy should be enabled to assume that ascendant in the government of the world, which has hitherto been maintained by accident, combined with the passions and caprices of a few leading individuals, may, perhaps, produce more perfect and happy forms of society, than have yet been realized in the history of mankind.

I have thus endeavoured to point out, and illustrate, a few of the most important purposes to which the philosophy of the human mind is subservient. It will not, however, I flatter myself, be supposed by any of my readers, that I mean to attempt a systematical work, on all, or any of the subjects I have now mentioned; the most limited of which, would furnish matter for many volumes. What I have aimed at, has been, to give, in the first place, as distinct and complete an analysis as I could, of the principles, both intellectual and active, of our nature; and, in the second place, to illustrate, as I proceed, the application of these general laws of the human consistution, to the different classes of phenomena which result from them. In the selection of these phenomena, although I have sometimes

been guided chiefly by the curiosity of the moment, or the accidental course of my own studies; yet, I have had it in view, to vary, as far as possible, the nature of my speculations, in order to show how numerous and different the applications are, of which this philosophy is susceptible. It will not, therefore, I hope, be objected to me, that I have been guilty of a blameable violation of unity in the plan of my work, till it be considered how far such a violation was useful for accomplishing the purposes for which I write. One species of unity, I am willing to believe, an attentive reader will be able to trace in it: I mean, that uniformity of thought and design, "which" (as Butler well remarks,) "we may "always expect to meet with in the compositions "of the same author, when he writes with simpli-"city, and in earnest."

ELEMENTS

OF THE

PHILOSOPHY

OF THE

HUMAN MIND.

CHAPTER FIRST.

Of the Powers of External Perception.

SECTION I.

Of the Theories which have been formed by Philosophers, to explain the manner in which the MIND *perceives external Objects.*

AMONG the various phenomena which the human mind presents to our view, there is none more calculated to excite our curiosity and our wonder, than the communication which is carried on between the sentient, thinking, and active principle within us, and the material objects with which we are surrounded. How little soever the bulk of mankind

may be disposed to attend to such inquiries, there is scarcely a person to be found, who has not occasionally turned his thoughts to that mysterious influence, which the will possesses over the members of the body; and to those powers of perception, which seem to inform us, by a sort of inspiration, of the various changes which take place in the external universe. Of those who receive the advantages of a liberal education, there are perhaps few, who pass the period of childhood, without feeling their curiosity excited by this incomprehensible communication between mind and matter. For my own part, at least, I cannot recollect the date of my earliest speculations on the subject.

It is to the phenomena of perception alone, that I am to confine myself in the following essay; and even with respect to these, all that I propose is, to offer a few general remarks on such of the common mistakes concerning them, as may be most likely to mislead us in our future inquiries. Such of my readers as wish to consider them more in detail, will find ample satisfaction in the writings of Dr. Reid.

In considering the phenomena of perception, it is natural to suppose, that the attention of philosophers would be directed, in the first instance, to the sense of seeing. The variety of information and of enjoyment we receive by it; the rapidity with which this information and enjoyment are conveyed to us; and above all, the intercourse it enables us to maintain with the more distant part of the universe, cannot fail to give it, even in the apprehension of the most careless observer, a pre-eminence over all our other perceptive faculties.

Hence it is, that the various theories, which have been formed to explain the operations of our senses, have a more immediate reference to that of seeing; and that the greater part of the metaphysical language, concerning perception in general, appears evidently, from its etymology, to have been suggested by the phenomena of vision. Even when applied to this sense, indeed, it can at most amuse the fancy, without conveying any precise knowledge; but, when applied to the other senses, it is altogether absurd and unintelligible.

It would be tedious and useless, to consider particularly, the different hypotheses which have been advanced upon this subject. To all of them, I apprehend, the two following remarks will be found applicable: First, that, in the formation of them, their authors have been influenced by some general maxims of philosophising, borrowed from physics; and secondly, that they have been influenced by an indistinct, but deep-rooted, conviction, of the immateriality of the soul; which although not precise enough to point out to them the absurdity of attempting to illustrate its operations by the analogy of matter, was yet sufficiently strong, to induce them to keep the absurdity of their theories as far as possible out of view, by allusions to those physical facts, in which the distinctive properties of matter are the least grossly and palpably exposed to our observation. To the former of these circumstances, is to be ascribed, the general principle, upon which all the known theories of perception proceed; that, in order to explain the intercourse between the mind and distant objects, it is necessary to suppose

the existence of something intermediate, by which its perceptions are produced; to the latter, the various metaphorical expressions of *ideas*, *species*, *forms*, *shadows*, *phantasms*, *images*; which, while they amused the fancy with some remote analogies to the objects of our senses, did not directly revolt our reason, by presenting to us any of the tangible qualities of body.

"It was the doctrine of ARISTOTLE, (says Dr. "REID;) that as our senses cannot receive external "material objects themselves, they receive their "species; that is, their images or forms, without "the matter; as wax receives the form of the seal, "without any of the matter of it. These images or "forms, impressed upon the senses, are called *sen-* "*sible species*; and are the objects only of the sen- "sitive part of the mind: but by various, internal "powers, they are retained, refined, and spiritual- "ized, so as to become objects of memory and ima- "gination; and, at last, of pure intellection. When "they are objects of memory and of imagination, "they get the name of *phantasms*. When, by farther "refinement, and being stripped of their particular- "ities, they become objects of science, they are "called *intelligible species*: so that every immediate "object, whether of sense, of memory, of imagin- "ation, or of reasoning, must be some phantasm, "or species, in the mind itself.

"The followers of Aristotle, especially the school- "men, made great additions to this theory; which "the author himself mentions very briefly, and with "an appearance of reserve. They entered into "large disquisitions with regard to the sensible

" species, what kind of things they are; how they " are sent forth by the object, and enter by the " organs of the senses; how they are preserved, " and refined by various agents, called internal " senses, concerning the number and offices of " which they had many controversies." *

The Platonists, too, although they denied the great doctrine of the Peripatetics, that all the objects of human understanding enter at first by the senses; and maintained, that there exist eternal and immutable ideas, which were prior to the objects of sense, and about which all science was employed; yet appear to have agreed with them in their notions concerning the mode in which external objects are perceived. This, Dr. Reid infers, partly from the silence of Aristotle about any difference between himself and his master upon this point; and partly from a passage in the seventh book of Plato's Republic; in which he compares the process of the mind in perception, to that of a person in a cave, who sees not external objects themselves, but only their shadows. †

" Two thousand years after Plato, (continues Dr. " Reid,) Mr. Locke, who studied the operations of " the human mind so much, and with so great suc- " cess, represents our manner of perceiving external " objects, by a similitude very much resembling " that of the cave. — " Methinks," says he, " the " understanding is not much unlike a closet, wholly " shut from light, with only some little opening " left, to let in external visible resemblances or ideas

* Essays on the Intellectual Powers of Man, p. 25.

† Ibid. p. 99.

" of things without. Would the pictures coming " into such a dark room but stay there, and lie so " orderly as to be found upon occasion, it would " very much resemble the understanding of a man, " in reference to all objects of sight, and the ideas " of them."*

" Plato's subterranean cave, and Mr. Locke's " dark closet, may be applied with ease to all the " systems of perceptions that have been invented: " for they all suppose, that we perceive not external " objects immediately; and that the immediate ob- " jects of perception, are only certain shadows of " the external objects. Those shadows, or images, " which we immediately perceive, were by the an- " cients called *species, forms, phantasms.* Since the " time of Des Cartes, they have commonly been " called *ideas*†; and by Mr. Hume, *impressions.* " But all philosophers, from Plato to Mr. Hume, " agree in this, that we do not perceive external " objects immediately; and that the immediate ob- " ject of perception must be some image present to " the mind." On the whole, Dr. Reid remarks, " that in their sentiments concerning perception, " there appears an uniformity, which rarely occurs " upon subjects of so abstruse a nature."‡

The very short and imperfect view we have now taken, of the common theories of perception, is almost sufficient, without any commentary, to establish the truth of the two general observations formerly made; for they all evidently proceed on a supposi-

* Locke on Human Understanding, book ii. chap. 11. § 17.
† See Note [B]. ‡ Reid, p. 116, 117.

tion, suggested by the phenomena of physics, that there must of necessity exist some medium of communication between the objects of perception and the percipient mind; and they all indicate a secret conviction in their authors, of the essential distinction between mind and matter; which, although not rendered, by reflection, sufficiently precise and satisfactory, to shew them the absurdity of attempting to explain the mode of their communication; had yet such a degree of influence on their speculations, as to induce them to exhibit their supposed medium under as mysterious and ambiguous a form as possible, in order that it might remain doubtful, to which of the two predicaments, of body or mind, they meant that it should be referred. By refining away the grosser qualities of matter; and by allusions to some of the most aerial and magical appearances it assumes, they endeavoured, as it were, to spiritualize the nature of their medium; while, at the same time, all their language concerning it, implied such a reference to matter, as was necessary for furnishing a plausible foundation, for applying to it the received maxims of natural philosophy.

Another observation, too, which was formerly hinted at, is confirmed by the same historical review; that, in the order of inquiry, the phenomena of vision had first engaged the attention of philosophers, and had suggested to them the greater part of their language, with respect to perception in general; and that, in consequence of this circumstance, the common modes of expression on the subject, unphilosophical and fanciful at best, even when applied to the sense of seeing, are, in the case of all

the other senses, obviously unintelligible and self-contradictory.—"As to objects of sight," says Dr. Reid, "I understand what is meant by an image "of their figure in the brain: but how shall we "conceive an image of their colour where there is "absolute darkness? And, as to all other objects "of sense, except figure and colour, I am unable "to conceive what is meant by an image of them. "Let any man say, what he means by an image of "heat and cold, an image of hardness or softness, "an image of sound, or smell, or taste. The word "*image*, when applied to these objects of sense, "has absolutely no meaning."—This palpable imperfection in the ideal theory, has plainly taken rise from the natural order in which the phenomena of perception present themselves to the curiosity.

The mistakes, which have been so long current in the world, about this part of the human constitution, will, I hope, justify me for prosecuting the subject a little farther; in particular, for illustrating at some length, the first of the two general remarks already referred to. This speculation I enter upon the more willingly, that it affords me an opportunity of stating some important principles with respect to the object, and the limits, of philosophical inquiry; to which I shall frequently have occasion to refer, in the course of the following disquisitions.

SECTION II.

Of certain natural Prejudices, which seem to have given rise to the common Theories of Perception.

It seems now to be pretty generally agreed among philosophers, that there is no instance in which we are able to perceive a necessary connexion between two successive events; or to comprehend in what manner the one proceeds from the other, as its cause. From experience, indeed, we learn, that there are many events, which are constantly conjoined, so that the one invariably follows the other: but it is possible, for any thing we know to the contrary, that this connexion, though a constant one, as far as our observation has reached, may not be a necessary connexion; nay, it is possible, that there may be no necessary connexions among any of the phenomena we see: and, if there are any such connexions existing, we may rest assured that we shall never be able to discover them. *

I shall endeavour to shew, in another part of this work, that the doctrine I have now stated does not lead to these sceptical conclusions, concerning the existence of a First Cause, which an author of great ingenuity has attempted to deduce from it.—At present, it is sufficient for my purpose to remark, that the word *cause* is used, both by philosophers and the vulgar, in two senses, which are widely dif-

* See Note [C].

ferent.— When it is said that every change in nature indicates the operation of a cause, the word *cause* expresses something which is supposed to be necessarily connected with the change; and without which it could not have happened. This may be called the *metaphysical* meaning of the word; and such causes may be called *metaphysical* or *efficient causes.*— In natural philosophy, however, when we speak of one thing being the cause of another, all that we mean is, that the two are constantly conjoined; so that when we see the one, we may expect the other. These conjunctions we learn from experience alone; and without an acquaintance with them, we could not accommodate our conduct to the established course of nature.— The causes which are the objects of our investigation in natural philosophy, may, for the sake of distinction, be called *physical causes.*

I am very ready to acknowledge, that this doctrine, concerning the object of natural philosophy, is not altogether agreeable to popular prejudices. When a man, unaccustomed to metaphysical speculations, is told, for the first time, that the science of physics gives us no information concerning the efficient causes of the phenomena about which it is employed, he feels some degree of surprize and mortification. The natural bias of the mind is surely to conceive physical events as somehow linked together; and material substances, as possessed of certain powers and virtues, which fit them to produce particular effects. That we have no reason to believe this to be the case, has been shewn in a very particular manner by Mr. Hume, and by

other writers; and must, indeed, appear evident to every person, on a moment's reflection. It is a curious question, what gives rise to the prejudice?

In stating the argument for the existence of the Deity, several modern philosophers have been at pains to illustrate that law of our nature, which leads us to refer every change we perceive in the universe, to the operation of an efficient cause. * — This reference is not the result of reasoning, but necessarily accompanies the perception, so as to render it impossible for us to see the change, without feeling a conviction of the operation of some cause by which it was produced; much in the same manner in which we find it to be impossible to conceive a sensation, without being impressed with a belief of the existence of a sentient being. Hence, I apprehend, it is that when we see two events constantly conjoined, we are led to associate the idea of causation or efficiency, with the former, and to refer to it that power or energy by which the change was produced; in consequence of which association, we come to consider philosophy as the knowledge of efficient causes; and lose sight of the operation of mind, in producing the phenomena of nature. — It is by an association somewhat similar, that we connect our sensations of colour, with the primary qualities of body. A moment's reflection must satisfy any one, that the sensation of colour can only reside in a mind; and yet our natural bias

* See, in particular, Dr. Reid's Essays on the Intellectual Powers of Man.

is surely to connect colour with extension and figure, and to conceive, *white*, *blue*, and *yellow*, as something spread over the surfaces of bodies. In the same way, we are led to associate with inanimate matter, the ideas of *power*, *force*, *energy*, and *causation*; which are all attributes of mind, and can exist in a mind only.

The bias of our nature is strengthened by another association. Our language, with respect to cause and effect, is borrowed by analogy from material objects. Some of these we see scattered about us, without any connexion between them; so that one of them may be removed from its place, without disturbing the rest. We can, however, by means of some material *vinculum*, connect two or more objects together; so that whenever the one is moved, the others shall follow. In like manner, we see some events, which occasionally follow one another, and which are occasionally disjoined; we see others, where the succession is constant and invariable. The former we conceive to be analogous to objects which are loose, and unconnected with each other, and whose contiguity in place, is owing merely to accidental position; the others to objects which are tied together by a material vinculum. Hence we transfer to such events, the same language which we apply to connected objects. We speak of a connexion between two events, and of a chain of causes and effects.*

That this language is merely analogical, and that we know nothing of physical events, but the laws which regulate their succession, must, I think, appear

* See Note [D].

very obvious to every person who takes the trouble to reflect on the subject: and yet it is certain, that it has misled the greater part of philosophers; and has had a surprising influence on the systems, which they have formed in very different departments of science.

A few remarks, on some of the mistaken conclusions, to which the vulgar notions concerning the connexions among physical events have given rise, in natural philosophy, will illustrate clearly the origin of the common theories of perception; and will, at the same time, satisfy the reader, with respect to the train of thought, which suggested the foregoing observations.

The maxim, that nothing can act but where it is and when it is, has always been admitted, with respect to metaphysical or efficient causes. "Whatever objects," says Mr. Hume, "are considered as "causes or effects, are contiguous; and nothing can "operate in a time or place, which is ever so little "removed from those of its existence." "We may "therefore (he adds) consider the relation of contiguity as essential to that of causation." — But although this maxim should be admitted, with respect to causes which are efficient, and which, as such, are necessarily connected with their effects, there is surely no good reason for extending it to physical causes, of which we know nothing, but that they are the constant forerunners and signs of certain natural events. It may, indeed, be improper, according to this doctrine, to retain the expressions, *cause* and *effect*, in natural philosophy; but, as long as the present language upon the subject continues in use, the propriety of its application, in

any particular instance, does not depend on the contiguity of the two events in place or time, but solely on this question, whether the one event be the constant and invariable forerunner of the other, so that it may be considered as its infallible sign? — Notwithstanding, however, the evidence of this conclusion, philosophers have in general proceeded upon a contrary supposition; and have discovered an unwillingness, even in physics, to call one event the cause of another, if the smallest interval of space or time existed between them. In the case of motion, communicated by impulse, they have no scruple to call the impulse the cause of the motion; but they will not admit that one body can be the cause of motion in another, placed at a distance from it, unless a connexion is carried on between them, by means of some intervening medium.

It is unnecessary for me, after what has already been said, to employ any arguments to prove, that the communication of motion by impulse, is as unaccountable as any other phenomenon in nature. Those philosophers who have attended at all to the subject, even they who have been the least sceptical with respect to cause and effect, and who have admitted a necessary connexion among physical events, have been forced to acknowledge, that they could not discover any necessary connexion between impulse and motion. Hence, some of them have been led to conclude, that the impulse only rouses the activity of the body, and that the subsequent motion is the effect of this activity, constantly exerted. "Motion," says one writer, "is "action; and a continued motion implies a conti-

"nued action." "The impulse is only the cause "of the beginning of the motion: its continuance "must be the effect of some other cause, which "continues to act as long as the body continues to "move." — The attempt which another writer of great learning has made, to revive the ancient theory of mind, has arisen from a similar view of the subject before us. He could discover no necesssary connexion between impulse and motion; and concluded, that the impulse was only the *occasion* of the motion, the beginning and continuance of which he ascribed to the continued agency of the mind with which the body is animated.

Although, however, it be obvious, on a moment's consideration, that we are as ignorant of the connexion between impulse and motion, as of the connexion between fire and any of the effects we see it produce, philosophers, in every age, seem to have considered the production of motion by impulse, as almost the only physical fact which stood in need of no explanation. When we see one body attract another at a distance, our curiosity is roused, and we inquire how the connexion is carried on between them. But when we see a body begin to move in consequence of an impulse which another has given it, we inquire no farther: on the contrary, we think a fact sufficiently accounted for, if it can be shewn to be a case of impulse. This distinction, between motion produced by impulse, and the other phenomena of nature, we are led, in a great measure, to make, by confounding together efficient and physical causes; and by applying to the latter, maxims which have properly a reference

only to the former.—Another circumstance, likewise, has probably considerable influence; that, as it is by means of impulse alone, that we ourselves have a power of moving external objects; this fact is more familiar to us from our infancy than any other; and strikes us as a fact which is necessary, and which could not have happened otherwise. Some writers have even gone so far as to pretend that, although the experiment had never been made, the communication of motion by impulse, might have been predicted by reasoning *d priori*. *

From the following passage, in one of Sir Isaac Newton's letters to Dr. Bentley, it appears, that he supposed the communication of motion by impulse, to be a phenomenon much more explicable, than that a connexion should subsist between two bodies placed at a distance from each other, without any intervening medium. "It is inconceivable," says he, "that inanimate brute matter should, without "the mediation of something else which is not ma-"terial, operate upon, and affect other matter, "without mutual contact; as it must do, if gravi-"tation, in the sense of Epicurus, be essential and "inherent in it. And this is one reason why I de-"sired that you would not ascribe innate gravity "to me. That gravity should be innate, inherent, "and essential to matter, so that one body may act "on another, through a vacuum, without the me-"diation of any thing else, by and through which "their action and force may be conveyed from one

* See an Answer to Lord Kaimes's Essay on Motion; by John Stewart, M.D.

" to another, is to me so great an absurdity, that I " believe no man who has, in philosophical matters, " a competent faculty of thinking, can ever fall " into it."

With this passage I so far agree, as to allow that it is impossible to conceive, in what manner one body acts on another at a distance, through a vacuum. But I cannot admit that it removes the difficulty to suppose, that the two bodies are in actual contact. That one body may be the efficient cause of the motion of another body placed at a distance from it, I do by no means assert; but only, that we have as good reason to believe that this may be possible, as to believe that any one natural event is the efficient cause of another.

I have been led into this very long disquisition, concerning efficient and physical causes, in order to point out the origin of the common theories of perception; all of which appear to me, to have taken rise from the same prejudice, which I have already remarked to have had so extensive an influence upon the speculations of natural philosophers.

That, in the case of the perception of distant objects, we are naturally inclined to suspect, either something to be emitted from the object to the organ of sense, or some medium to intervene between the object and organ, by means of which the former may communicate an impulse to the latter; appears from the common modes of expression on the subject, which are to be found in all languages. In our own, for example, we frequently hear the vulgar speak, of light striking the eye; not in consequence of any philosophical theory they have

been taught, but of their own crude and undirected speculations. Perhaps there are few men among those who have attended at all to the history of their own thoughts, who will not recollect the influence of these ideas, at a period of life long prior to the date of their philosophical studies. Nothing, indeed, can be conceived more simple and natural than their origin. When an object is placed in a certain situation with respect to a particular organ of the body, a perception arises in the mind: when the object is removed, the perception ceases. * Hence we are led to apprehend some connexion between the object and the perception; and as we are accustomed to believe, that matter pro[illegible]s its effects by impulse, we conclude that there must be some material medium intervening between the object and organ, by means of which the impulse is communicated from the one to the other.—That this is really the case, I do not mean to dispute. I think, however, it is evident, that the existence of such a medium does not in any case appear *à priori*; and yet the natural prejudices of men have given rise to an universal belief of it, long before they were able to produce any good arguments in support of their opinion.

* Tum porro varios rerum sentimus odores,
Nec tamen ad nareis venientеis cernimus unquam:
Nec calidos æstus tuimur, nec frigora quimus
Usurpare oculis, nec voces cernere suemus;
Quæ tamen omnia corporeâ constare necesse 'st
Naturâ; quoniam sensus impellere possunt.

LUCRET. lib. i. p. 299.

Nor is it only to account for the connexion between the object and the organ of sense, that philosophers have had recourse to the theory of impulse. They have imagined that the impression on the organ of sense is communicated to the mind, in a similar manner. As one body produces a change in the state of another by impulse, so it has been supposed, that the external object produces perception, (which is a change in the state of the mind,) first, by some material impression made on the organ of sense; and, secondly, by some material impression communicated from the organ to the mind along the nerves and brain. These suppositions, indeed, as I had occasion already to hint, were, in the ancient theories of perception, rather implied than expressed; but by modern philosophers, they have been stated in the form of explicit propositions. "As to "the manner," says Mr. Locke, "in which bodies "produce ideas in us; it is manifestly by impulse, "the only way which we can conceive bodies operate in." * And Sir Isaac Newton, although he does not speak of an *impulse* made on the mind, plainly proceeded on the principle that, as matter can only move matter by impulse, so no connexion could be carried on between matter and mind, unless the mind were *present* (as he expresses it) to the matter from which the last impression is communicated. "Is not" (says he) "the sensorium of "animals, the place where the sentient substance "is present; and to which the sensible species of "things are brought, through the nerves and brain,

* Essay on Human Understanding, book ii. chap. viii. § 11.

" that there they may be perceived by the mind " present in that place?" Dr. Clarke has expressed the same idea still more confidently, in the following passage of one of his letters to Leibnitz. " Without being present* to the images of the " things perceived, the soul could not possibly per- " ceive them. A living substance can only there " perceive, where it is present. Nothing can any " more act, or be acted upon, *where* it is not pre- " sent, than it can *when* it is not." " How body " acts upon mind, or mind upon body," (says Dr. Porterfield†,) " I know not; but this I am very cer- " tain of, that nothing can act, or be acted upon, " where it is not; and therefore our mind can never " perceive any thing but its own proper modifica- " tions, and the various states of the sensorium, to

* This phrase of " the soul *being present* to the images of external objects," has been used by many philosophers, since the time of Des Cartes; evidently from a desire to avoid the absurdity of supposing, that images of extension and figure can exist in an unextended mind.

" Quæris," (says Des Cartes himself, in replying to the objections of one of his antagonists,) " quomodo existimem in me " subjecto inextenso recipi posse speciem, ideamve corporis " quod extensum est. Respondeo nullam speciem corpoream " in mente recipi, sed puram intellectionem tam rei corporeæ " quam incorporeæ fieri absque ulla specie corporea; ad imagi- " nationem vero, quæ non nisi de rebus corporeis esse potest, " opus quidem esse specie quæ sit verum corpus, et *ad quam* " *mens se applicet*, sed non quæ in mente recipiatur."—It appears, therefore, that this philosopher supposed his images, or ideas, to exist in the *brain*, and not in the *mind*. Mr. Locke's expressions sometimes imply the one supposition, and sometimes the other.

† See his Treatise on the Eye, vol. ii. p. 356.

" which it is present: so that it is not the external " sun and moon, which are in the heavens, which " our mind perceives, but only their image or " representation, impressed upon the sensorium. " How the soul of a seeing man sees these images, " or how it receives those ideas, from such agita- " tions in the sensorium, I know not; but I am " sure it can never perceive the external bodies " themselves, to which it is not present."

* The same train of thinking, which had led these philosophers to suppose, that external objects are perceived by means of species proceeding from the object to the mind, or by means of some material impression made on the mind by the brain, has suggested to a late writer a very different theory: that the mind, when it perceives an external object, quits the body, and is present to the object of perception. "The mind," (says the learned author of Ancient Metaphysics,) " is not where the body " is, when it perceives what is distant from the " body, either in time or place, because nothing " can act, but when, and where, it is. Now, the " mind acts when it perceives. The mind, there-

* " The slightest philosophy" (says Mr. Hume) " teaches us, " that nothing can ever be present to the mind, but an image, " or perception; and that the senses are only the inlets, " through which these images are conveyed; without being " able to produce any immediate intercourse between the mind " and the object. The table, which we see, seems to diminish, " as we remove farther from it: but the real table, which exists " independent of us, suffers no alteration: it was, therefore, " nothing but its image which was present to the mind. These" (he adds) " are the obvious dictates of reason."

Essay *on the* Academical *or* Sceptical Philosophy.

" fore, of every animal who has memory or imagi-
" nation, acts, and by consequence exists, when and
" where the body is not; for it perceives objects
" distant from the body both in time and place." *
Indeed, if we take for granted, that in perception the mind acts upon the object, or the object upon the mind, and, at the same time, admit the truth of the maxim, that "nothing can act but where it is," we must, of necessity, conclude, either that objects are perceived in a way similar to what is supposed in the ideal theory, or that, in every act of perception, the soul quits the body, and is present to the object perceived. And accordingly, this alternative is expressly stated by Malebranche; who differs, however, from the writer last quoted, in the choice which he makes of his hypothesis; and even rests his proof of its truth on the improbability of the other opinion. " I suppose," says he, " that every one
" will grant, that we perceive not external objects
" immediately, and of themselves. We see the sun,
" the stars, and an infinity of objects without us;
" and it is not at all likely that, upon such occasions,
" the soul sallies out of the body, in order to be
" present to the objects perceived. She sees them
" not therefore by themselves; and the immediate
" object of the mind is not the thing perceived,
" but something which is intimately united to the
" soul; and it is that which I call an idea: so that
" by the word idea, I understand nothing else here
" but that which is nearest to the mind when we
" perceive any object.——It ought to be carefully

* Ant. Met. vol. ii. p. 306.

" observed, that, in order to the mind's perceiving " any object, it is absolutely necessary that the idea " of that object be actually present to it. Of this " it is not possible to doubt. The things which the " soul perceives, are of two kinds. They are either " in the soul, or they are without the soul. Those " that are in the soul, are its own thoughts; that " is to say, all its different modifications. The " soul has no need of ideas for perceiving these " things. But with regard to things without the " soul, we cannot perceive them but by means of " ideas."

To these quotations, I shall add another, which contains the opinion of Buffon upon the subject. As I do not understand it so completely, as to be able to translate it in a manner intelligible to myself, I shall transcribe it in the words of the author.

" L'ame s'unit intimement à tel objet qu'il lui " plâit, la distance, la grandeur, la figure, rien ne " peut nuire à cette union lorsque l'ame la veut: elle " se fait et se fait et un instant . . . . la volonté n'est " elle donc qu'un mouvement corporel, et la con- " templation un simple attouchement? Comment " cet attouchement pourroit-il se faire sur un objet " éloigné, sur un sujet abstrait? Comment pour- " roit-il s'opérer en un instant indivisible? A-t-on " jamais conçu du mouvement, sans qu'il y eût de " l'espace et du tems? La volonté, si c'est un " mouvement, n'est donc pas un mouvement ma- " tériel, et si l'union de l'ame à son objet est un " attouchement, un contact, cet attouchement ne se " fait-il pas au loin? ce contact n'est il pas une " pénétration?"

All these theories appear to me to have taken their rise, first, from an inattention to the proper object of philosophy, and an application of the same general maxims to physical and to efficient causes; and, secondly, from an apprehension, that we understand the connexion between impulse and motion, better than any other physical fact. From the detail which I have given, it appears how extensive an influence this prejudice has had on the inquiries both of natural philosophers and of metaphysicians.

In the foregoing reasonings, I have taken for granted, that motion may be produced by impulse; and have contented myself with asserting, that this fact is not more explicable, than the motions which the Newtonians refer to gravitation; or than the intercourse which is carried on between the mind and external objects in the case of perception. The truth, however, is, that some of the ablest philosophers in Europe are now satisfied, not only that there is no evidence of motion being in any case produced by the actual contact of two bodies; but that very strong proofs may be given, of the absolute impossibility of such a supposition: and hence they have been led to conclude, that all the effects which are commonly referred to impulse, arise from a power of repulsion, extending to a small and imperceptible distance round every element of matter. If this doctrine shall be confirmed by future speculations in physics, it must appear to be a curious circumstance in the history of science, that philosophers have been so long occupied in attempting to trace all the phenomena of matter, and

even some of the phenomena of mind, to a general fact, which, upon an accurate examination, is found to have no existence. —— I do not make this observation with a view to depreciate the labours of these philosophers; for, although the system of Boscovich were completely established, it would not diminish, in the smallest degree, the value of those physical inquiries, which have proceeded on the common hypothesis, with respect to impulse. The laws which regulate the communication of motion, in the case of apparent contact, are the most general facts we observe among the terrestrial phenomena; and they are, of all physical events, those which are the most familiar to us, from our earliest infancy. It was therefore not only natural but proper, that philosophers should begin their physical inquiries, with attempting to refer to these, (which are the most general laws of nature, exposed to the examination of our senses,) the particular appearances they wished to explain. And if ever the theory of Boscovich should be completely established, it will have no other effect, than to resolve these laws into some principle still more general, without affecting the solidity of the common doctrine, so far as it goes.

SECTION III.

Of Dr. Reid's Speculations on the Subject of Perception.

It was chiefly in consequence of the sceptical conclusions which Bishop Berkeley and Mr. Hume had deduced from the ancient theories of perception, that Dr. Reid was led to call them in question; and he appears to me to have shewn, in the most

satisfactory manner, not only that they are perfectly hypothetical, but that the suppositions they involve, are absurd and impossible. His reasonings, on this part of our constitution, undoubtedly form the most important accession which the philosophy of the human mind has received since the time of Mr. Locke.

But although Dr. Reid has been at much pains to overturn the old ideal system, he has not ventured to substitute any hypothesis of his own in its place. And, indeed, he was too well acquainted with the limits prescribed to our philosophical inquiries, to think of indulging his curiosity, in such unprofitable speculations. All, therefore, that he is to be understood as aiming at, in his inquiries concerning our perceptive powers, is to give a precise state of the fact, divested of all theoretical expressions; in order to prevent philosophers from imposing on themselves any longer, by words without meaning; and to extort from them an acknowledgment, that, with respect to the process of nature in perception, they are no less ignorant than the vulgar.

According to this view of Dr. Reid's reasonings, on the subject of perception, the purpose to which they are subservient may appear to some to be of no very considerable importance; but the truth is, that one of the most valuable effects of genuine philosophy, is to remind us of the limited powers of the human understanding; and to revive those natural feelings of wonder and admiration, at the spectacle of the universe, which are apt to languish, in consequence of long familiarity. The most profound

discoveries which are placed within the reach of our researches lead to a confession of human ignorance; for, while they flatter the pride of man, and increase his power, by enabling him to trace the simple and beautiful laws by which physical events are regulated, they call his attention, at the same time to those general and ultimate facts which bound the narrow circle of his knowledge; and which, by evincing to him the operation of powers, whose nature must for ever remain unknown, serve to remind him of the insufficiency of his faculties to penetrate the secrets of the universe. Wherever we direct our inquiries; whether to the anatomy and physiology of animals, to the growth of vegetables, to the chemical attractions and repulsions, or to the motions of the heavenly bodies; we perpetually perceive the effects of powers which cannot belong to matter. To a certain length we are able to proceed; but in every research we meet with a line, which no industry nor ingenuity can pass. It is a line too, which is marked with sufficient distinctness; and which no man now thinks of passing, who has just views of the nature and object of philosophy. It forms the separation between that field which falls under the survey of the physical inquirer, and that unknown region, of which, though it was necessary that we should be assured of the existence, in order to lay a foundation for the doctrines of natural theology, it hath not pleased the Author of the universe to reveal to us the wonders, in this infant state of our being. It was, in fact, chiefly by tracing out this line, that Lord Bacon did so much service to science.

Beside this effect, which is common to all our philosophical pursuits, of impressing the mind with a sense of that mysterious agency, or efficiency, into which general laws must be resolved; they have a tendency, in many cases, to counteract the influence of habit, in weakening those emotions of wonder and of curiosity, which the appearances of nature are so admirably fitted to excite. For this purpose, it is necessary, either to lead the attention to facts which are calculated to strike by their novelty, or to present familiar appearances in a new light: and such are the obvious effects of philosophical inquiries; sometimes extending our views to objects which are removed from vulgar observation; and sometimes correcting our first apprehensions with respect to ordinary events. — The communication of motion by impulse, (as I already hinted,) is as unaccountable as any phenomenon we know; and yet, most men are disposed to consider it, as a fact which does not result from will, but from necessity. To such men, it may be useful to direct their attention to the universal law of gravitation; which, although not more wonderful in itself, than the common effects of impulse, is more fitted, by its novelty, to awaken their attention, and to excite their curiosity. If the theory of Boscovich should ever be established on a satisfactory foundation, it would have this tendency in a still more remarkable degree, by teaching us that the communication of motion by impulse, (which we are apt to consider as a necessary truth,) has no existence whatever; and that every case in which it appears to our senses to take place, is a pheno-

menon no less inexplicable, than that principle of attraction which binds together the most remote parts of the universe.

If such, however, be the effects of our philosophical pursuits when successfully conducted, it must be confessed that the tendency of imperfect or erroneous theories is widely different. By a specious solution of insuperable difficulties, they so dazzle and bewilder the understanding, as, at once, to prevent us from advancing, with steadiness, towards the limit of human knowledge; and from perceiving the existence of a region beyond it, into which philosophy is not permitted to enter. In such cases, it is the business of genuine science to unmask the imposture, and to point out clearly, both to the learned and to the vulgar, what reason can, and what she cannot, accomplish. This, I apprehend, has been done, with respect to the history of our perceptions, in the most satisfactory manner, by Dr. Reid. — When a person little accustomed to metaphysical speculations is told, that, in the case of volition, there are certain invisible fluids, propagated from the mind to the organ which is moved; and that in the case of perception, the existence and qualities of the external object are made known to us by means of species, or phantasms, or images, which are present to the mind in the sensorium; he is apt to conclude that the intercourse between mind and matter is much less mysterious than he had supposed; and that, although these expressions may not convey to him any very distinct meaning, their import is perfectly understood by philosophers. It is now, I think,

pretty generally acknowledged by physiologists, that the influence of the will over the body, is a mystery which has never yet been unfolded; but, singular as it may appear, Dr. Reid was the first person who had courage to lay completely aside all the common hypothetical language concerning perception, and to exhibit the difficulty in all its magnitude, by a plain statement of the fact. To what then, it may be asked, does this statement amount? — Merely to this; that the mind is so formed, that certain impressions produced on our organs of sense by external objects, are followed by correspondent sensations; and that these sensations, (which have no more resemblance to the qualities of matter, than the words of a language have to the things they denote,) are followed by a perception of the existence and qualities of the bodies by which the impressions are made; that all the steps of this process are equally incomprehensible; and that, for any thing we can prove to the contrary, the connexion between the sensation and the perception, as well as that between the impression and the sensation, may be both arbitrary: that it is therefore by no means impossible, that our sensations may be merely the occasions on which the correspondent perceptions are excited; and that, at any rate, the consideration of these sensations, which are attributes of mind, can throw no light on the manner in which we acquire our knowledge of the existence and qualities of body. From this view of the subject, it follows, that it is the external objects themselves, and not any species or images of these objects, that the mind perceives; and that, although,

by the constitution of our nature, certain sensations are rendered the constant antecedents of our perceptions, yet it is just as difficult to explain how our perceptions are obtained by their means, as it would be, upon the supposition, that the mind were all at once inspired with them, without any concomitant sensations whatever.

These remarks are general, and apply to all our various perceptions; and they evidently strike at the root of all the common theories upon the subject. The laws, however, which regulate these perceptions, are different in the case of the different senses, and form a very curious object of philosophical inquiry. — Those, in particular, which regulate the acquired perceptions of sight, lead to some very interesting and important speculations; and, I think, have never yet been explained in a manner completely satisfactory. To treat of them in detail, does not fall under the plan of this work: but I shall have occasion to make a few remarks on them, in the chapter on Conception.

In opposition to what I have here observed on the importance of Dr. Reid's speculations concerning our perceptive powers, I am sensible it may be urged, that they amount merely to a negative discovery; and it is possible, that some may even be forward to remark, that it was unnecessary to employ so much labour and ingenuity as he has done, to overthrow an hypothesis of which a plain account would have been a sufficient refutation. — To such persons, I would beg leave to suggest, that, although, in consequence of the juster views in pneumatology, which now begin to prevail, (chiefly, I believe, in

consequence of Dr. Reid's writings,) the ideal system may appear to many readers unphilosophical and puerile; yet the case was very different when this author entered upon his inquiries: and I may even venture to add, that few positive discoveries, in the whole history of science, can be mentioned, which found a juster claim to literary reputation, than to have detected, so clearly and unanswerably, the fallacy of an hypothesis, which has descended to us from the earliest ages of philosophy; and which, in modern times, has not only served to Berkeley and Hume as the basis of their sceptical systems, but was adopted as an indisputable truth by Locke, by Clarke, and by Newton.

SECTION IV.

Of the Origin of our Knowledge.

The philosophers who endeavoured to explain the operations of the human mind by the theory of ideas, and who took for granted, that in every exertion of thought there exists in the mind some object distinct from the thinking substance, were naturally led to inquire whence these ideas derive their origin; in particular, whether they are conveyed to the mind from without by means of the senses, or form part of its original furniture?

With respect to this question, the opinions of the ancients were various; but as the influence of these opinions on the prevailing systems of the present age is not very considerable, it is not necessary, for any of the purposes I have in view in this work to consider them particularly. The mo-

derns, too, have been much divided on the subject; some holding with Des Cartes, that the mind is furnished with certain innate ideas; others, with Mr. Locke, that all our ideas may be traced from sensation and reflection; and many, (especially among the later metaphysicians in France,) that they may be all traced from sensation alone.

Of these theories, that of Mr. Locke deserves more particularly our attention; as it has served as the basis of most of the metaphysical systems which have appeared since his time; and as the difference between it and the theory which derives all our ideas from sensation alone, is rather apparent than real.

In order to convey a just notion of Mr. Locke's doctrine concerning the origin of our ideas, it is necessary to remark, that he refers to sensation, all the ideas which we are supposed to receive by the external senses; our ideas, for example, of colours, of sounds, of hardness, of extension, of motion; and, in short, of all the qualities and modes of matter; to reflection, the ideas of our own mental operations which we derive from consciousness; our ideas, for example, of memory, of imagination, of volition, of pleasure, and of pain. These two sources, according to him, furnish us with all our simple ideas, and the only power which the mind possesses over them, is to perform certain operations, in the way of composition, abstraction, generalisation, &c. on the materials which it thus collects in the course of its experience. The laudable desire of Mr. Locke, to introduce precision and perspicuity into metaphysical speculations, and his anxiety to guard the mind against error in general, naturally prepossessed him

in favour of a doctrine, which, when compared with those of his predecessors, was intelligible and simple; and which, by suggesting a method, apparently easy and palpable, of analysing our knowledge into its elementary principles, seemed to furnish an antidote against those prejudices which had been favoured by the hypothesis of innate ideas. It is now a considerable time since this fundamental principle of Mr. Locke's system began to lose its authority in England; and the sceptical conclusions, which it had been employed to support by some later writers, furnished its opponents with very plausible arguments against it. The late learned Mr. Harris, in particular, frequently mentions this doctrine of Mr. Locke, and always in terms of high indignation. "Mark," (says he, in one passage,) "the order of things, ac-
"cording to the account of our later metaphysi-
"cians. First, comes that huge body, the sensible
"world. Then this, and its attributes beget sen-
"sible ideas. Then, out of sensible ideas, by a kind
"of lopping and pruning, are made ideas intelligi-
"ble, whether specific or general. Thus, should they
"admit that mind was coëval with body; yet, till
"the body gave it ideas, and awakened its dormant
"powers, it could at best have been nothing more
"than a sort of dead capacity; for innate ideas it
"could not possibly have any." And, in another passage. "For my own part, when I read the de-
"tail about sensation and reflection and am taught
"the process at large how my ideas are all gene-
"rated, I seem to view the human soul in the
"light of a crucible, where truths are produced by
"a kind of logical chemistry."

If Dr. Reid's reasonings on the subject of ideas be admitted, all these speculations with respect to their origin fall to the ground; and the question to which they relate is reduced merely to a question of fact; concerning the occasions on which the mind is first led to form those simple notions into which our thoughts may be analysed, and which may be considered as the principles or elements of human knowledge. With respect to many of these notions, this inquiry involves no difficulty. No one, for example, can be at a loss to ascertain the occasions on which the notions of colours and sounds are first formed by the mind: for these notions are confined to individuals who are possessed of particular senses, and cannot, by any combination of words, be conveyed to those who never enjoyed the use of them. The history of our notions of extension and figure, (which may be suggested to the mind by the exercise either of sight or of touch,) is not altogether so obvious; and accordingly it has been the subject of various controversies. To trace the origin of these, and of our other simple notions with respect to the qualities of matter; or, in other words, to describe the occasions on which, by the laws of our nature, they are suggested to the mind, is one of the leading objects of Dr. Reid's inquiry, in his analysis of our external senses; in which he carefully avoids every hypothesis with respect to the inexplicable phenomena of perception and of thought, and confines himself scrupulously to a literal statement of facts. — Similar inquiries to these, may be proposed, concerning the occasions on which we form the notions of *time*, of *motion*, of *number*, of *causation*, and an

infinite variety of others. Thus, it has been observed by different authors, that every perception of change suggests to the mind the notion of a *cause*, without which that change could not have happened. Dr. Reid remarks, that, without the faculty of memory, our perceptive powers could never have led us to form the idea of *motion*. I shall afterwards shew, in the sequel of this work, that without the same faculty of memory, we never could have formed the notion of *time;* and that without the faculty of abstraction, we could not have formed the notion of *number*. —— Such inquiries, with respect to the origin of our knowledge, are curious and important; and if conducted with judgment, they may lead to the most certain conclusions; as they aim at nothing more than to ascertain facts, which, although not obvious to superficial observers, may yet be discovered by patient investigation.

From the remarks which have been just made on our notions of time, of motion, and of number, it is evident, that the inquiry concerning the origin of human knowledge cannot possibly be discussed at the commencement of such a work as this; but that it must be resumed in different parts of it, as those faculties of the mind come under our view, with which the formation of our different simple notions is connected.

With respect to the general question, Whether all our knowledge may be ultimately traced from our sensations? I shall only observe at present, that the opinion we form concerning it, is of much less consequence than is commonly supposed. That the mind cannot, without the grossest absurdity, be

considered in the light of a receptacle which is gradually furnished from without, by materials introduced by the channel of the senses; nor in that of a *tabula rasa*, upon which copies or resemblances of things external are imprinted; I have already shewn at sufficient length. Although, therefore, we should acquiesce in the conclusion, that, without our organs of sense, the mind must have remained destitute of knowledge, this concession could have no tendency whatever to favour the principles of materialism; as it implies nothing more than that the impressions made on our senses by external objects, furnish the occasions on which the mind, by the laws of its constitution, is led to perceive the qualities of the material world, and to exert all the different modifications of thought of which it is capable.

From the very slight view of the subject, however, which has been already given, it is sufficiently evident, that this doctrine, which refers the origin of all our knowledge to the occasions furnished by sense, must be received with many limitations. That those ideas, which Mr. Locke calls ideas of reflection, (or, in other words, the notions which we form of the subjects of our own consciousness,) are not suggested to the mind immediately by the sensations arising from the use of our organs of perception, is granted on all hands; and, therefore, the amount of the doctrine now mentioned, is nothing more than this; that the first occasions on which our various intellectual faculties are exercised, are furnished by the impressions made on our organs of sense; and consequently, that, with-

out these impressions, it would have been impossible for us to arrive at the knowledge of our faculties. Agreeably to this explanation of the doctrine, it may undoubtedly be said with plausibility, (and, I am inclined to believe, with truth,) that the occasions on which all our notions are formed, are furnished either immediately or ultimately by sense; but, if I am not much mistaken, this is not the meaning which is commonly annexed to the doctrine, either by its advocates or their opponents. One thing at least is obvious, that, in this sense, it does not lead to those consequences which have interested one party of philosophers in its defence, and another in its refutation.

There is another very important consideration which deserves our attention in this argument: that, even on the supposition that certain impressions on our organs of sense are necessary to awaken the mind to a consciousness of its own existence, and to give rise to the exercise of its various faculties; yet all this might have happened without our having any knowledge of the qualities, or even of the existence, of the material world. To facilitate the admission of this proposition, let us suppose a being formed in every other respect like man; but possessed of no senses, excepting those of hearing and smelling. I make choice of these two senses, because it is obvious, that by means of them alone we never could have arrived at the knowledge of the primary qualities of matter, or even of the existence of things external. All that we could possibly have inferred from our occasional sensations of smell and sound, would have been that

there existed some unknown cause by which they were produced.

Let us suppose then a particular sensation to be excited in the mind of such a being. The moment this happens, he must necessarily acquire the knowledge of two facts at once: that of the existence of *the sensation;* and that of *his own existence,* as a sentient being. After the sensation is at an end, he can *remember* he felt it; he can *conceive* that he feels it again. If he has felt a variety of different sensations, he can compare them together in respect of the pleasure or the pain they have afforded him; and will naturally *desire* the return of the agreeable sensations, and be *afraid* of the return of those which were painful. If the sensations of smell and sound are both excited in his mind at the same time, he can *attend* to either of them he chuses, and withdraw his attention from the other; or he can withdraw his *attention* from both, and fix it on some sensation he has felt formerly. In this manner, he might be led, merely by sensations existing in his mind, and conveying to him no information concerning matter, to exercise many of his most important faculties; and amidst all these different modifications and operations of his mind, he would feel, with irresistible conviction, that they all belong to one and the same sentient and intelligent being; or, in other words, that they are all modifications and operations of himself. — I say nothing, at present, of the various simple notions, (or simple ideas, as they are commonly called,) which would arise in his mind; for example, the ideas of *number,* of *duration,* of *cause* and *effect,* of *personal identity;*

all of which, though perfectly unlike his sensations, could not fail to be suggested by means of them. Such a being, then, might know all that we know of mind at present; and as his language would be appropriated to mind solely, and not borrowed by analogy from material phenomena, he would even possess important advantages over us in conducting the study of pneumatology.

From these observations it sufficiently appears, what is the real amount of the celebrated doctrine, which refers the origin of all our knowledge to our sensations; and that, even granting it to be true, (which, for my own part, I am disposed to do, in the sense in which I have now explained it,) it would by no means follow from it, that our notions of the operations of mind, nor even many of those notions which are commonly suggested to us, *in the first instance*, by the perception of external objects, are *necessarily subsequent* to our knowledge of the qualities, or even of the existence, of matter.

The remarks which I have offered on this doctrine, will not appear superfluous to those who recollect that, although it has, for many years past, been a subject of controversy in England, it continues still to be implicitly adopted by the best philosophical writers in France; and that it has been employed by some of them to support the system of materialism; and by others to shew, that the intellectual distinctions between man and brutes, arise entirely from the differences in their animal organization, and in their powers of external perception.

CHAPTER SECOND.

Of Attention.

When we are deeply engaged in conversation, or occupied with any speculation that is interesting to the mind, the surrounding objects either do not produce in us the perceptions they are fitted to excite; or these perceptions are instantly forgotten. A clock, for example, may strike in the same room with us, without our being able, next moment, to recollect whether we heard it or not.

In these, and similar cases, I believe, it is commonly taken for granted, that we really do not perceive the external object. From some analogous facts, however, I am inclined to suspect that this opinion is not well founded. A person who falls asleep at church, and is suddenly awaked, is unable to recollect the last words spoken by the preacher; or even to recollect that he was speaking at all. And yet, that sleep does not suspend entirely the powers of perception, may be inferred from this, that if the preacher were to make a sudden pause in his discourse, every person in the congregation who was asleep, would instantly awake. In this case, therefore, it appears, that a person may be conscious of a perception without being able afterwards to recollect it.

Many other instances of the same general fact might be produced. When we read a book, (espe-

cially in a language which is not perfectly familiar to us,) we must perceive successively every different letter, and must afterwards combine these letters into syllables and words, before we comprehend the meaning of a sentence. This process, however, passes through the mind, without leaving any trace in the memory.

It has been proved by optical writers, that, in perceiving the distances of visible objects from the eye, there is a judgment of the understanding antecedent to the perception. In some cases this judgment is founded on a variety of circumstances combined together; the conformation of the organ necessary for distinct vision; the inclination of the optic axes; the distinctness or indistinctness of the minute parts of the object; the distances of the intervening objects from each other, and from the eye; and, perhaps, on other circumstances besides these: and yet, in consequence of our familiarity with such processes from our earliest infancy, the perception seems to be instantaneous; and it requires much reasoning, to convince persons unaccustomed to philosophical speculations, that the fact is otherwise.

Another instance of a still more familiar nature, may be of use for the farther illustration of the same subject. It is well known, that our thoughts do not succeed each other at random, but according to certain laws of association, which modern philosophers have been at much pains to investigate. It frequently, however, happens, particularly when the mind is animated by conversation, that it makes a sudden transition from one subject to another, which, at first view, appears to be very remote from it; and

that it requires a considerable degree of reflexion, to enable the person himself by whom the transition was made, to ascertain what were the intermediate ideas. A curious instance of such a sudden transition is mentioned by Hobbes in his Leviathan. "In a company," (says he,) "in which the conversation turned on the civil war, what could be "conceived more impertinent, than for a person "to ask abruptly, What was the value of a Roman "denarius? On a little reflexion, however, I was "easily able to trace the train of thought which "suggested the question: for the original subject "of discourse naturally introduced the history of "the King, and of the treachery of those who "surrendered his person to his enemies; this again "introduced the treachery of Judas Iscariot, and "the sum of money which he received for his "reward. — And all this train of ideas," says Hobbes, "passed through the mind of the speaker "in a twinkling, in consequence of the velocity "of thought." It is by no means improbable, that if the speaker himself had been interrogated about the connexion of ideas, which led him aside from the original topic of discourse, he would have found himself, at first, at a loss for an answer.

In the instances which have been last mentioned we have also a proof, that a perception, or an idea, which passes through the mind, without leaving any trace in the memory, may yet serve to introduce other ideas connected with it by the laws of association. Other proofs of this important fact shall be mentioned afterwards.

When a perception or an idea passes through the mind, without our being able to recollect it next moment, the vulgar themselves ascribe our want of memory to a want of attention. Thus, in the instance already mentioned, of the clock, a person, upon observing that the minute hand had just passed twelve, would naturally say, that he did not attend to the clock when it was striking. There seems, therefore, to be a certain effort of mind upon which, even in the judgment of the vulgar, memory in some measure depends; and which they distinguish by the name of attention.

The connexion between attention and memory has been remarked by many authors. "Nec "dubium est," (says Quinctilian, speaking of memory,) "quin plurimum in hac parte valeat "mentis intentio, et velut acies luminum a pro-"spectu rerum quas intuetur non aversa." The same observation has been made by Locke *, and by most of the writers on the subject of education.

But although the connexion between attention and memory has been frequently remarked in general terms, I do not recollect that the power of attention has been mentioned by any of the writers on pneumatology, in their enumeration of the faculties of the mind †; nor has it been con-

* "Memory depends much on attention and repetition." Locke's Essay, b. i. chap. x.

† Some important observations on the subject of attention occur in different parts of Dr. Reid's writings; particularly in his Essays on the Intellectual Powers of Man, p. 62.; and in his Essays on the Active Powers of Man, p. 78, et seq. — To this ingenious author we are indebted for the remark, that attention

sidered by any one, so far as I know, as of sufficient importance to deserve a particular examination. Helvetius, indeed, in his very ingenious work, *De l'Esprit*, has intitled one of his chapters, *De l'inégale capacité d'Attention;* but what he considers under this article, is chiefly that capacity of patient inquiry, (or as he calls it, *une attention suivie*,) upon which philosophical genius seems in a great measure to depend. He has also remarked *, with the writers already mentioned, that the impression which any thing makes on the memory, depends much on the degree of attention we give to it; but he has taken no notice of that effort which is absolutely essential to the lowest degree of memory. It is this effort that I propose to consider at present; — not those different degrees of attention which imprint things more or less deeply on the mind, but that act or effort without which we have no recollection or memory whatever.

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to things external, is properly called *observation;* and attention to the subjects of our consciousness, *reflection*. He has also explained the causes of the peculiar difficulties which accompany this last exertion of the mind, and which form the chief obstacles to the progress of pneumatology. I shall have occasion, in another part of this work, to treat of habits of inattention in general, and to suggest some practical hints with respect to the culture both of the powers of observation and reflection. The view which I propose to take of attention at present, is extremely limited; and is intended merely to comprehend such general principles as are necessary to prepare the reader for the chapters which are to follow.

* " C'est l'attention, plus ou moins grande, qui grave plus ou " moins profondément les objets dans la mémoire."

With respect to the nature of this effort, it is perhaps impossible for us to obtain much satisfaction. We often speak of greater and less degrees of attention; and, I believe, in these cases, conceive the mind (if I may use the expression) to exert itself with different degrees of energy. I am doubtful, however, if this expression conveys any distinct meaning. For my own part, I am inclined to suppose, (though I would by no means be understood to speak with confidence,) that it is essential to memory, that the perception or the idea that we would wish to remember, should remain in the mind for a certain space of time, and should be contemplated by it exclusively of every thing else; and that attention consists partly (perhaps entirely) in the effort of the mind, to detain the idea or the perception, and to exclude the other objects that solicit its notice.

Notwithstanding, however, the difficulty of ascertaining, in what this act of the mind consists, every person must be satisfied of its reality from his own consciousness; and of its essential connexion with the power of memory. I have already mentioned several instances of ideas passing through the mind, without our being able to recollect them next moment. These instances were produced, merely to illustrate the meaning I annex to the word attention; and to recall to the recollection of the reader, a few striking cases, in which the possibility of our carrying on a process of thought, which we are unable to attend to at the time, or to remember afterwards, is acknowledged in the received systems of philosophy. I shall now men-

tion some other phenomena, which appear to me to be very similar to these, and to be explicable in the same manner; although they have commonly been referred to very different principles.

The wonderful effect of practice in the formation of habits, has been often, and justly taken notice of, as one of the most curious circumstances in the human constitution. A mechanical operation, for example, which we at first performed with the utmost difficulty, comes, in time, to be so familiar to us, that we are able to perform it without the smallest danger of mistake; even while the attention appears to be completely engaged with other subjects. The truth seems to be, that in consequence of the association of ideas, the different steps of the process present themselves successively to the thoughts, without any recollection on our part, and with a degree of rapidity proportioned to the length of our experience; so as to save us entirely the trouble of hesitation and reflexion, by giving us every moment a precise and steady notion of the effect to be produced. *

In the case of some operations which are very familiar to us, we find ourselves unable to attend to, or to recollect, the acts of the will by which they

* I do not mean by this observation, to call in question the effects which the practice of the mechanical arts has on the muscles of the body. These are as indisputable as its effects on the mind. A man who has been accustomed to write with his right hand, can write better with his left hand, than another who never practised the art at all; but he cannot write so well with his left hand as with his right. — The effects of practice, therefore, it should seem, are produced partly on the mind, and partly on the body.

were preceded; and accordingly, some philosophers of great eminence have called in question the existence of such volitions; and have represented our habitual actions as involuntary and mechanical. But surely the circumstance of our inability to recollect our volitions, does not authorise us to dispute their possibility; any more than our inability to attend to the process of the mind, in estimating the distance of an object from the eye, authorises us to affirm that the perception is instantaneous. Nor does it add any force to the objection to urge, that there are instances in which we find it difficult, or perhaps impossible, to check our habitual actions by a contrary volition. For it must be remembered, that this contrary volition does not remain with us steadily during the whole operation; but is merely a general intention or resolution, which is banished from the mind, as soon as the occasion presents itself with which the habitual train of our thoughts and volitions is associated.*

* The solution of this difficulty, which is given by Dr. Porterfield, is somewhat curious.

"Such is the power of custom and habit, that many actions, "which are no doubt voluntary, and proceed from our mind, are "in certain circumstances rendered necessary, so as to appear "altogether mechanical, and independent of our wills; but it "does not from thence follow, that our mind is not concerned "in such motions, but only that it has imposed upon itself a law, "whereby it regulates and governs them to the greatest advan-"tage. In all this, there is nothing of intrinsical necessity; the "mind is at absolute liberty to act as it pleases; but being a wise "agent, it cannot chuse but to act in conformity to this law, by "reason of the utility and advantage that arises from this way "of acting." TREATISE ON THE EYE, vol. ii. p. 17.

It may indeed be said, that these observations only prove the possibility that our habitual actions may be voluntary. But if this be admitted, nothing more can well be required: for surely, if these phenomena are clearly explicable from the known and acknowledged laws of the human mind, it would be unphilosophical to devise a new principle, on purpose to account for them. The doctrine, therefore, which I have laid down with respect to the nature of habits, is by no means founded on hypothesis, as has been objected to me by some of my friends; but, on the contrary, the charge of hypothesis falls on those who attempt to explain them, by saying that they are *mechanical* or *automatic*; a doctrine which, if it is at all intelligible, must be understood as implying the existence of some law of our constitution, which has been hitherto unobserved by philosophers; and to which, I believe, it will be difficult to find any thing analogous in our constitution.

In the foregoing observations, I have had in view a favourite doctrine of Dr. Hartley's; which has been maintained also of late by a much higher authority, I mean Dr. Reid.

"Habit*" (says this ingenious author) "differs "from instinct, not in its nature, but in its origin; "the last being natural, the first acquired. Both "operate without will or intention, without thought, "and therefore may be called mechanical prin-"ciples." In another passage †, he expresses himself thus: "I conceive it to be a part of our con-"stitution, that what we have been accustomed to

* Essays on the Active Powers of Man, p. 128.

† Ibid. p. 130.

" do, we acquire not only a facility but a proneness " to do on like occasions; so that it requires a par- " ticular will or effort to forbear it, but to do it re- " quires, very often, no will at all."

The same doctrine is laid down still more explicitly by Dr. Hartley.

" Suppose," (says he,) " a person who has a per- " fectly voluntary command over his fingers, to be- " gin to learn to play on the harpsichord. The first " step is to move his fingers from key to key, with a " slow motion, looking at the notes, and exerting " an express act of volition in every motion. By " degrees the motions cling to one another, and to " the impressions of the notes, in the way of asso- " ciation, so often mentioned, the acts of volition " growing less and less express all the time, till at " last they become evanescent and imperceptible. " For an expert performer will play from notes, or " ideas laid up in the memory, and at the same time " carry on a quite different train of thoughts in his " mind; or even hold a conversation with another. " Whence we may conclude, that there is no inter- " vention of the idea, or state of mind, called " Will." * Cases of this sort, Hartley calls, " transi- " tions of voluntary actions into automatic ones."

I cannot help thinking it more philosophical to suppose, that those actions which are originally voluntary, always continue so; although in the case of operations which are become habitual in consequence of long practice, we may not be able to recollect every different volition. Thus, in the case

* Vol. i. p. 108, 109.

of a performer on the harpsichord, I apprehend, that there is an act of the will preceding every motion of every finger, although he may not be able to recollect these volitions afterwards; and although he may, during the time of his performance, be employed in carrying on a separate train of thought. For, it must be remarked, that the most rapid performer can, when he pleases, play so slowly, as to be able to attend to, and to recollect, every separate act of his will in the various movements of his fingers; and he can gradually accelerate the rate of his execution, till he is unable to recollect these acts. Now, in this instance, one of two suppositions must be made; the one is, that the operations in the two cases are carried on precisely in the same manner, and differ only in the degree of rapidity; and that when this rapidity exceeds a certain rate, the acts of the will are too momentary to leave any impression on the memory.—The other is, that when the rapidity exceeds a certain rate, the operation is taken entirely out of our hands; and is carried on by some unknown power, of the nature of which we are as ignorant, as of the cause of the circulation of the blood, or of the motion of the intestines.* The last supposition seems to me to

* This seems to have been the opinion of Bishop Berkeley, whose doctrine concerning the nature of our habitual actions, coincides with that of the two philosophers already quoted. "It must be owned, we are not conscious of the systole and "diastole of the heart, or the motion of the diaphragm. It "may not, nevertheless, be thence inferred, that unknowing "nature can act regularly as well as ourselves. The true in-

be somewhat similar to that of a man who should maintain, that, although a body projected with a moderate velocity, is seen to pass through all the intermediate spaces in moving from one place to another, yet we are not entitled to conclude, that this happens when the body moves so quickly as to become invisible to the eye. The former supposition is supported by the analogy of many other facts in our constitution. Of some of these, I have already taken notice; and it would be easy to add to the number. —— An expert accountant, for example, can sum up, almost with a single glance of his eye, a long column of figures. He can tell the sum, with unerring certainty; while, at the same time, he is unable to recollect any one of the figures of which that sum is composed: and yet nobody doubts, that each of these figures has passed through his mind, or supposes, that when the rapidity of the process becomes so great that he is unable to recollect the various steps of it, he obtains the result by a sort of inspiration. This last supposition would be perfectly analogous to Dr. Hartley's

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" ference is, that the self-thinking individual, or human person,
" is not the real author of those natural motions. And, in fact,
" no man blames himself, if they are wrong, or values himself,
" if they are right. The same may be said of the fingers of a
" musician, which some object to be moved by habit, which
" understands not; it being evident that what is done by rule,
" must proceed from something that understands the rule;
" therefore, if not from the musician himself, from some other
" active intelligence; the same, perhaps, which governs bees
" and spiders, and moves the limbs of those who walk in their
" sleep." — See a Treatise, entitled, *Siris*, p. 123. 2d edit.

doctrine concerning the nature of our habitual exertions.

The only plausible objection which, I think, can be offered to the principles I have endeavoured to establish on this subject, is founded on the astonishing, and almost incredible rapidity, they necessarily suppose in our intellectual operations.—When a person, for example, reads aloud; there must, according to this doctrine, be a separate volition preceding the articulation of every letter; and it has been found, by actual trial *; that it is possible to pronounce about two thousand letters in a minute. Is it reasonable to suppose, that the mind is capable of so many different acts in an interval of time so very inconsiderable?

With respect to this objection, it may be observed, in the first place, that all arguments against the foregoing doctrine with respect to our habitual exertions, in so far as they are founded on the inconceivable rapidity which they suppose in our intellectual operations, apply equally to the common doctrine concerning our perception of distance by the eye. But this is not all. To what does the supposition amount, which is considered as so incredible? Only to this, that the mind is so formed,

* Incredibili velocitate peraguntur et repetuntur musculorum contractiones. Docent cursus, præsertim quadrupedum; vel lingua, quæ quadringinta vocabula, forte bis mille literas, exprimit, spatio temporis quod *minutum* vocare solemus, quamvis ad multas literas exprimendas plures musculorum contractiones requirantur.

Conspectus Medicinæ Theoreticæ, Auct. Jac. Gregory. *Edit. altera*, p. 171.

as to be able to carry on certain intellectual processes, in intervals of time too short to be estimated by our faculties; a supposition which, so far from being extravagant, is supported by the analogy of many of our most certain conclusions in natural philosophy. The discoveries made by the microscope, have laid open to our senses a world of wonders, the existence of which hardly any man would have admitted upon inferior evidence; and have gradually prepared the way for those physical speculations, which explain some of the most extraordinary phenomena of nature, by means of modifications of matter far too subtile for the examination of our organs. Why then should it be considered as unphilosophical, after having demonstrated the existence of various intellectual processes which escape our attention in consequence of their rapidity, to carry the supposition a little farther, in order to bring under the known laws of the human constitution, a class of mental operations, which must otherwise remain perfectly inexplicable? Surely, our ideas of time are merely relative, as well as our ideas of extension; nor is there any good reason for doubting, that, if our powers of attention and memory were more perfect than they are, so as to give us the same advantage in examining rapid events, which the microscope gives for examining minute portions of extension, they would enlarge our views with respect to the intellectual world, no less than that instrument has with respect to the material.

It may contribute to remove, still more completely, some of the scruples which are naturally suggested

by the foregoing doctrine, to remark, that, as the great use of attention and memory is to enable us to treasure up the results of our experience and reflexion for the future regulation of our conduct, it would have answered no purpose for the author of our nature to have extended their province to those intervals of time, which we have no occasion to estimate in the common business of life. All the intellectual processes I have mentioned are subservient to some particular end, either of perception or of action; and it would have been perfectly superfluous, if after this end were gained, the steps which are instrumental in bringing it about, were all treasured up in the memory. Such a constitution of our nature would have had no other effect but to store the mind with a variety of useless particulars.

After all I have said, it will, perhaps, be still thought, that some of the reasonings I have offered are too hypothetical; and it is even possible, that some may be disposed rather to dispute the common theory of vision, than admit the conclusions I have endeavoured to establish. To such readers the following considerations may be of use, as they afford a more palpable instance, than any I have yet mentioned, of the rapidity with which the thoughts may be trained by practice, to shift from one thing to another.

When an equilibrist balances a rod upon his finger, not only the attention of his mind, but the observation of his eye, is constantly requisite. — It is evident that the part of his body which supports the object is never wholly at rest; otherwise the object would no more stand upon it, than if placed in the

same position upon a table. The equilibrist, therefore, must watch, in the very beginning, every inclination of the object from the proper position, in order to counteract this inclination by a contrary movement. In this manner, the object has never time to fall in any one direction, and is supported in a way somewhat analogous to that in which a top is supported on a pivot, by being made to spin upon an axis. — That a person should be able to do this in the case of a single object, is curious; but that he should be able to balance in the same way, two, or three, upon different parts of his body, and at the same time balance himself on a small cord or wire, is indeed wonderful. Nor is it possible to conceive that, in such an instance, the mind, at one and the same moment, attends to these different equilibriums; for it is not merely the attention which is requisite, but the eye. We must therefore conclude, that both of these are directed successively to the different equilibriums, but change from one object to another with such velocity, that the effect, with respect to the experiment, is the same as if they were directed to all the objects constantly.

It is worth while to remark farther, with respect to this last illustration, that it affords direct evidence of the possibility of our exerting acts of the will, which we are unable to recollect; for the movements of the equilibrist do not succeed each other in a regular order, like those of the harpsichord player, in performing a piece of music; but must in every instance be regulated by accidents, which may vary in numberless respects, and which indeed must vary in num-

berless respects, every time he repeats the experiment: and therefore, although, in the former case, we should suppose, with Hartley, "that the motions "cling to one another, and to the impressions of "the notes, in the way of association, without any "intervention of the state of mind called will," yet, in this instance, even the possibility of such a supposition is directly contradicted by the fact.

The dexterity of jugglers (which, by the way, merits a greater degree of attention from philosophers, than it has yet attracted) affords many curious illustrations of the same doctrine. The whole of this art seems to me to be founded on this principle; that it is possible for a person, by long practice, to acquire a power, not only of carrying on certain intellectual processes more quickly than other men, (for all the feats of legerdemain suppose the exercise of observation, thought, and volition,) but of performing a variety of movements with the hand, before the eyes of a company, in an interval of time too short to enable the spectators to exert that degree of attention which is necessary to lay a foundation for memory. *

As some philosophers have disputed the influence of the will in the case of habits, so others (particularly Stahl and his followers) have gone into the opposite extreme, by referring to the will all the vital motions. If it be admitted, (say these philosophers,) that there are instances in which we will an effect, without being able to make it an object of attention, is it not possible that, what we commonly call the

* See Note [E].

vital and involuntary motions, may be the consequences of our own thought and volition? But there is surely a wide difference between those cases, in which the mind was at first conscious of thought and volition, and gradually lost the power of attending to them, from the growing rapidity of the intellectual process; and a case in which the effect itself is perfectly unknown to the bulk of mankind, even after they arrive at maturity, and in which this effect has continued to take place with the most perfect regularity, from the very beginning of their animal existence, and long before the first dawn of either reflexion or experience.

Some of the followers of Stahl have stated the fact rather inaccurately, even with respect to our habitual exertions. Thus Dr. Porterfield, in his Treatise on the Eye, is at pains to prove, that the soul may think and will without knowledge or consciousness. But this, I own, is to me inconceivable. The true state of the fact, I apprehend, is, that the mind may think and will, without attending to its thoughts and volitions, so as to be able afterwards to recollect them. — Nor is this merely a verbal criticism; for there is an important difference between consciousness and attention, which it is very necessary to keep in view, in order to think upon this subject with any degree of precision. *The

* The distinction between attention and consciousness is pointed out by Dr. Reid, in his Essays on the Intellectual Powers of Man, p. 60. "Attention is a voluntary act; it requires an "active exertion to begin and to continue it; and it may be con- "tinued as long as we will; but consciousness is involuntary, "and of no continuance, changing with every thought." The

one is an involuntary state of the mind; the other is a voluntary act: the one has no immediate connexion with memory; but the other is so essentially subservient to it, that, without some degree of it, the ideas and perceptions which pass through the mind, seem to leave no trace behind them.

When two persons are speaking to us at once, we can attend to either of them at pleasure, without being much disturbed by the other. If we attempt to listen to both, we can understand neither. The fact seems to be, that when we attended constantly to one of the speakers, the words spoken by the other make no impression on the memory, in consequence of our not attending to them; and affect us as little as if they had not been uttered. This power, however, of the mind to attend to either speaker at pleasure, supposes that it is, at one and the same time, conscious of the sensations which both produce.

Another well-known fact may be of use in illustrating the same distinction. A person who accidentally loses his sight, never fails to improve gradually in the sensibility of his touch. — Now, there are only two ways of explaining this. The one is, that, in consequence of the loss of the one sense, some change takes place in the physical constitution of the body, so as to improve a different organ of perception. The other, that the mind gradually acquires a power of attending to and remembering

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same author has remarked, that these two operations of the mind have been frequently confounded by philosophers, and particularly by Mr. Locke.

those slighter sensations of which it was formerly conscious, but which, from our habits of inattention, made no impression whatever on the memory. No one, surely, can hesitate for a moment, in pronouncing which of these two suppositions is the more philosophical.

Having treated, at considerable length, of those habits in which both mind and body are concerned, I proceed to make a few remarks on some phenomena which are purely intellectual; and which, I think, are explicable on the same principles with those which have been now under our review.

Every person who has studied the elements of geometry, must have observed many cases in which the truth of a theorem struck him the moment he heard the enunciation. I do not allude to those theorems the truth of which is obvious almost to sense; such as, that any two sides of a triangle are greater than the third side; or that one circle cannot cut another circle in more than two points; but to some propositions with respect to quantity, considered abstractly, (to some, for example, in the fifth book of Euclid,) which almost every student would be ready to admit without a demonstration. These propositions, however, do by no means belong to the class of axioms; for their evidence does not strike every person equally, but requires a certain degree of quickness to perceive it. At the same time, it frequently happens, that, although we are convinced the proposition is true, we cannot state immediately to others upon what our conviction is founded. In such cases, I think it highly probable, that before we give our

assent to the theorem, a process of thought * has passed through the mind, but has passed through it so quickly, that we cannot, without difficulty, arrest our ideas in their rapid succession, and state them to others in their proper and logical order. It is some confirmation of this theory, that there are no propositions of which it is more difficult to give a legitimate proof from first principles, than of those which are only removed a few steps from the class of axioms; and that those men who are the most remarkable for their quick perception of mathematical truth, are seldom clear and methodical in communicating their knowledge to others. — A man of a moderate degree of quickness, the very first time he is made acquainted with the fundamental principles of the method of fluxions, or of the method of prime and ultimate ratios, is almost instantaneously satisfied of their truth; yet how difficult is it to demonstrate these principles rigorously!

What I have now said with respect to mathematics, may be applied in a great measure to the other branches of knowledge. How many questions daily occur to us, in morals, in politics, and in common life; in considering which, we almost instantaneously see where the truth lies, although we are not in a condition, all at once, to explain the grounds of our conviction! Indeed, I apprehend, there are few, even among those who have devoted themselves to study,

* Of the nature of these processes of thought, I shall treat fully in another part of my work, under the article of Reasoning. I have expressed myself concerning them in this chapter, in as general terms as possible.

but who have not been habituated to communicate their knowledge to others, who are able to exhibit, in their natural order, the different steps of any investigation by which they have been led to form a particular conclusion. The common observation, therefore, that an obscure elocution always indicates an imperfect knowledge of the subject; although it may perhaps be true with respect to men who have cultivated the art of speaking, is by no means to be relied on as a general rule, in judging of the talents of those whose speculations have been carried on with a view merely to their own private satisfaction.

In the course of my own experience, I have heard of more than one instance, of men who, without any mathematical education, were able, on a little reflexion, to give a solution of any simple algebraical problem; and who, at the same time, were perfectly incapable of explaining by what steps they obtained the result. In these cases we have a direct proof of the possibility of investigating even truths which are pretty remote, by an intellectual process, which, as soon as it is finished, vanishes almost entirely from the memory. — It is probable, that something of the same kind takes place much more frequently in the other branches of knowledge, in which our reasonings consist commonly but of a few steps. Indeed, I am inclined to think, that it is in this way that by far the greater part of our speculative conclusions are formed.

There is no talent, I apprehend, so essential to a public speaker, as to be able to state clearly every different step of those trains of thought by which he himself was led to the conclusions he wishes to esta-

blish. Much may be here done by study and experience. Even in those cases in which the truth of a proposition seems to strike us instantaneously, although we may not be able, at first, to discover the media of proof, we seldom fail in the discovery by perseverance. — Nothing contributes so much to form this talent as the study of metaphysics; not the absurd metaphysics of the schools, but that study which has the operations of the mind for its object. By habituating us to reflect on the subjects of our consciousness, it enables us to retard, in a considerable degree, the current of thought; to arrest many of those ideas, which would otherwise escape our notice; and to render the arguments which we employ for the conviction of others, an exact transcript of those trains of inquiry and reasoning, which originally led us to form our opinions.

These observations lead me to take notice of an important distinction between the intellectual habits of men of speculation and of action. The latter, who are under a necessity of thinking and deciding on the spur of the occasion, are led to cultivate, as much as possible, a quickness in their mental operations; and sometimes acquire it in so great a degree, that their judgments seem to be almost intuitive. To those, on the other hand, who have not merely to form opinions for themselves, but to communicate them to others, it is necessary to retard the train of thought as it passes in the mind, so as to be able afterwards to recollect every different step of the process; a habit, which, in some cases, has such an influence on the intellectual powers, that there are men, who, even in their private

speculations, not only make use of words as an instrument of thought, but form these words into regular sentences.

It may perhaps appear, at first, a paradoxical observation, that one great employment of philosophers, in a refined age, is to bring to light, and arrange, those rapid and confused trains of thought, which appear from the structure of languages, and from the monuments of ancient laws and governments, to have passed through the minds of men in the most remote and unenlightened periods. In proof, however, of this, it is sufficient to mention, the systematical analogy which we find, to a certain degree, running through the structure of the most imperfect tongues, (for example, in the formation of the different parts of the verbs,) and those general principles, which the philosophical lawyer traces amidst an apparent chaos of precedents and statutes. In the language, too, of the rudest tribe, we find words transferred from one subject to another, which indicate, in the mind of the individual who first made the transference, some perception of resemblance or of analogy. Such transferences can hardly be ascribed to accident, but may be considered as proofs that the analogies which the philosopher afterwards points out between the objects which are distinguished by the same name, had been perceived by the inventors of language, although it is more than probable that they never expressed them in words, nor could even have explained them if they had been questioned on the subject.

Nor will this appear a bold or incredible supposition, if we reflect on the sagacity and ingenuity which

savages, and even peasants, discover, in overcoming the difficulties which occur in their situation. They do not, indeed, engage in long processes of abstract reasoning, for which they have no inclination, and which it is impossible to carry on without the use of a cultivated and a copious language; but, when pressed by present circumstances, they combine means to accomplish particular ends, in a manner which indicates the exercise both of invention and of reasoning. It is probable that such processes are carried on in their minds, with much less assistance from language, than a philosopher would derive on a similar occasion; and it is almost certain, that they would find themselves perfectly capable of communicating to others the steps by which they were led to their conclusions. In consequence of these circumstances, the attainments of the human mind, in its ruder state, perish with the individual, without being recorded in writing, or perhaps expressed in words; and we are left to infer them indirectly from the structure of language, or from the monuments of ancient customs and institutions.

When a train of thought leads to any interesting conclusion, or excites any pleasant feeling, it becomes peculiarly difficult to arrest our fleeting ideas; because the mind, when once it has felt the pleasure, has little inclination to retrace the steps by which it arrived at it. This is one great cause of the difficulty attending philosophical criticism. When a critic explains to us, why we are pleased with any particular beauty, or offended with any defect, it is evident, that if his theory be just, the circumstances which he points out as the foundation of our pleasure or un-

easiness, must have occurred to our minds before we were pleased with the beauty, or offended with the defect. In such cases, it sometimes happens, when a critic has been fortunate in his theory, that we recognize at first sight our old ideas, and, without any farther consideration, are ready to bear testimony to the truth, from our own consciousness. So very difficult, however, is it to attend to the ideas which excite such feelings, that it often appears to be doubtful, whether a theory be right or wrong; and that where there is every reason to believe that the pleasure is produced in all men in the same way, different critics adopt different theories with respect to its cause. It is long practice alone, joined to what is commonly called a metaphysical turn of mind, (by which I think is chiefly to be understood, a capacity of reflecting on the subjects of our consciousness,) that can render such efforts of attention easy. Exquisite sensibility, so far from being useful in this species of criticism, both gives a disrelish for the study, and disqualifies for pursuing it.

Before we leave the subject of attention, it is proper to take notice of a question which has been stated with respect to it; whether we have the power of attending to more than one thing at one and the same instant; or, in other words, whether we can attend at one and the same instant, to objects which we can attend to separately?* This question has, if I am not mistaken, been already decided by several philosophers in the negative; and I acknowledge, for my own part, that although

* I have added this explanation to obviate the question, what is meant by *one* object?

their opinion has not only been called in question by others, but even treated with some degree of contempt as altogether hypothetical, it appears to me to be the most reasonable and philosophical that we can form on the subject.

There is indeed a great variety of cases, in which the mind apparently exerts different acts of attention at once; but from the instances which have already been mentioned, of the astonishing rapidity of thought, it is obvious, that all this may be explained, without supposing these acts to be coexistent; and I may even venture to add, it may all be explained in the most satisfactory manner, without ascribing to our intellectual operations, a greater degree of rapidity than that with which we know from the fact that they are sometimes carried on. The effect of practice in increasing this capacity of apparently attending to different things at once, renders this explanation of the phenomenon in question, more probable than any other.

The case of the equilibrist and rope-dancer already mentioned, is particularly favourable to this explanation; as it affords direct evidence of the possibility of the mind's exerting different successive acts in an interval of time so short, as to produce the same sensible effect, as if they had been exerted at one and the same moment. In this case, indeed, the rapidity of thought is so remarkable, that if the different acts of the mind were not all necessarily accompanied with different movements of the eye, there can be no reason for doubting, that the philosophers, whose doctrine I

am now controverting, would have asserted, that they are all mathematically co-existent.

Upon a question, however, of this sort, which does not admit of a perfectly direct appeal to the fact, I would by no means be understood to decide with confidence; and therefore I should wish the conclusions I am now to state, to be received as only conditionally established. They are necessary and obvious consequences of the general principle, "that the mind can only attend to one thing at "once;" but must stand or fall with the truth of that supposition.

It is commonly understood, I believe, that, in a concert of music, a good ear can attend to the different parts of the music separately, or can attend to them all at once, and feel the full effect of the harmony. If the doctrine, however, which I have endeavoured to establish, be admitted, it will follow, that, in the latter case, the mind is constantly varying its attention from the one part of the music to the other, and that its operations are so rapid, as to give us no perception of an interval of time.

The same doctrine leads to some curious conclusions with respect to vision. Suppose the eye to be fixed in a particular position, and the picture of an object to be painted on the retina. Does the mind perceive the complete figure of the object at once, or is this perception the result of the various perceptions we have of the different points in the outline? With respect to this question, the principles already stated lead me to conclude, that the mind does at one and the same time perceive every

point in the outline of the object, (provided the whole of it be painted on the retina at the same instant,) for perception, like consciousness, is an involuntary operation. As no two points, however, of the outline are in the same direction, every point, by itself, constitutes just as distinct an object of attention to the mind, as if it were separated by an interval of empty space from all the rest. If the doctrine therefore formerly stated be just, it is impossible for the mind to attend to more than one of these points at once; and as the perception of the figure of the object, implies a knowledge of the relative situation of the different points with respect to each other, we must conclude, that the perception of figure by the eye, is the result of a number of different acts of attention. These acts of attention, however, are performed with such rapidity, that the effect, with respect to us, is the same as if the perception were instantaneous.

In farther confirmation of this reasoning, it may be remarked, that if the perception of visible figure were an immediate consequence of the picture on the retina, we should have, at the first glance, as distinct an idea of a figure of a thousand sides, as of a triangle or a square. The truth is, that when the figure is very simple, the process of the mind is so rapid, that the perception seems to be instantaneous; but when the sides are multiplied beyond a certain number, the interval of time necessary for these different acts of attention becomes perceptible.

It may perhaps be asked, what I mean by a *point* in the outline of a figure, and what it is that con-

stitutes this point *one* object of attention? The answer, I apprehend, is, that this point is the *minimum visibile.* If the point be less, we cannot perceive it: if it be greater, it is not all seen in one direction.

If these observations be admitted, it will follow, that, without the faculty of memory, we could have had no perception of visible figure.

CHAPTER THIRD.

Of Conception.

By Conception, I mean that power of the mind, which enables it to form a notion of an absent object of perception; or of a sensation which it has formerly felt. I do not contend that this is exclusively the proper meaning of the word, but I think that the faculty which I have now defined, deserves to be distinguished by an appropriated name.

Conception is often confounded with other powers. When a painter makes a picture of a friend, who is absent or dead, he is commonly said to paint from memory: and the expression is sufficiently correct for common conversation. But in an analysis of the mind, there is ground for a distinction. The power of conception enables him to make the features of his friend an object of thought, so as to copy the resemblance; the power of memory recognises these features as a former object of perception. Every act of memory includes an idea of the past; conception implies no idea of time whatever. *

* Shakespeare calls this power "the mind's eye."
Hamlet.—"My father! Methinks I see my father.
Horatio.—"Where, my Lord?
Hamlet.—"In my mind's eye, Horatio."
Act i. Scene 4.

According to this view of the matter, the word *conception* corresponds to what is called by the school-men *simple apprehension;* with this difference only, that they included, under this name, our apprehension of general propositions; whereas I should wish to limit the application of the word *conception* to our sensations, and the objects of our perceptions. Dr. Reid, in his Inquiry, substitutes the word *conception* instead of the simple apprehension of the schools, and employs it in the same extensive signification. I think it may contribute to make our ideas more distinct, to restrict its meaning: — and for such a restriction, we have the authority of philosophers in a case perfectly analogous. — In ordinary language, we apply the same word *perception,* to the knowledge which we have by our senses of external objects, and to our knowledge of speculative truth: and yet an author would be justly censured, who should treat of these two operations of the mind under the same article of perception. I apprehend there is as wide a difference between the conception of a truth, and the conception of an absent object of sense, as between the perception of a tree, and the perception of a mathematical theorem. — I have therefore taken the liberty to distinguish also the two former operations of the mind: and under the article of *conception,* shall confine myself to that faculty whose province it is to enable us to form a notion of our past sensations, or of the objects of sense that we have formerly perceived.

Conception is frequently used as synonymous with imagination. Dr. Reid says, that "imagination,

" in its proper sense, signifies a lively conception of " objects of sight." " This is a talent" (he remarks) " of importance to poets and orators; and deserves " a proper name, on account of its connexion with " their arts." He adds, that " imagination is dis- " tinguished from conception, as a part from a " whole."

I shall not inquire, at present, into the proper English meaning of the words *conception* and *imagination*. In a study such as this, so far removed from the common purposes of speech, some latitude may perhaps be allowed in the use of words; provided only we define accurately those we employ, and adhere to our own definitions.

The business of conception, according to the account I have given of it, is to present us with an exact transcript of what we have felt or perceived. But we have, moreover, a power of modifying our conceptions, by combining the parts of different ones together, so as to form new wholes of our own creation. I shall employ the word *imagination* to express this power; and, I apprehend, that this is the proper sense of the word; if imagination be the power which gives birth to the productions of the poet and the painter. This is not a simple faculty of the mind. It presupposes abstraction, to separate from each other qualities and circumstances which have been perceived in conjunction; and also judgment and taste to direct us in forming the combinations. If they are made wholly at random; they are proofs of insanity. *

* In common discourse, we often use the phrase of *thinking upon an object*, to express what I here call, the *conception* of it.

The first remarkable fact which strikes us with respect to conception is, that we can conceive the objects of some senses much more easily than those of others. Thus we can conceive an absent visible object, such as a building that is familiar to us, much more easily than a particular sound, a particular taste, or a particular pain, which we have formerly felt. It is probable, however, that this power might be improved in the case of some of our senses. Few people, I believe, are able to form a very distinct conception of sounds; and yet it is certain, that, by practice, a person may acquire a power of amusing himself with reading written music. And in the case of poetical numbers, it is universally known, that a reader may enjoy the harmony of the verse, without articulating the words, even in a whisper. In such cases, I take for granted, that our pleasure arises from a very strong conception of the sounds which we have been accustomed to associate with particular written characters.

The peculiarity in the case of visible objects, seems

—— In the following passage, Shakespeare uses the former of these phrases, and the words *imagination* and *apprehension* as synonymous with each other.

—— Who can hold a fire in his hand,
By thinking on the frosty Caucasus?
Or cloy the hungry edge of appetite,
By bare imagination of a feast?
Or wallow naked in December's snow,
By thinking on fantastic summer's heat?
Oh no! the apprehension of the good
Gives but the greater feeling to the worse.

K. Richard II. Act i. Scene 6.

to arise from this; that when we think of a sound or of a taste, the object of our conception is one single detached sensation; whereas every visible object is complex; and the conception which we form of it as a whole, is aided by the association of ideas. To perceive the force of this observation, it is necessary to recollect what was formerly said on the subject of attention. As we cannot at one instant attend to every point of the picture of an object on the retina, so, I apprehend, we cannot at one instant form a conception of the whole of any visible object; but that our conception of the object as a whole, is the result of many conceptions. The association of ideas connects the different parts together, and presents them to the mind in their proper arrangement; and the various relations which these parts bear to one another in point of situation, contribute greatly to strengthen the associations. It is some confirmation of this theory, that it is more easy to remember a succession of sounds, than any particular sound which we have heard detached and unconnected.

The power of conceiving visible objects, like all other powers that depend on the association of ideas, may be wonderfully improved by habit. A person accustomed to drawing, retains a much more perfect notion of a building or of a landscape which he has seen, than one who has never practised that art. A portrait painter traces the form of the human body from memory, with as little exertion of attention, as he employs in writing the letters which compose his name.

In the power of conceiving colours, too, there are striking differences among individuals: and, in-

deed, I am inclined to suspect, that, in the greater number of instances, the supposed defects of sight in this respect, ought to be ascribed rather to a defect in the power of conception. One thing is certain, that we often see men who are perfectly sensible of the difference between two colours when they are presented to them, who cannot give names to these colours, with confidence, when they see them apart; and are perhaps apt to confound the one with the other. Such men, it should seem, feel the sensation of colour like other men, when the object is present, but are incapable (probably in consequence of some early habit of inattention) to conceive the sensation distinctly when the object is removed. Without this power of conception, it is evidently impossible for them, however lively their sensations may be, to give a name to any colour; for the application of the name supposes not only a capacity of receiving the sensation, but a power of comparing it with one formerly felt. At the same time, I would not be understood by these observations to deny, that there are cases, in which there is a natural defect of the organ in the perception of colour. In some cases, perhaps, the sensation is not felt at all; and in others, the faintness of the sensation may be one cause of those habits of inattention, from which the incapacity of conception has arisen.

A talent for lively description, at least in the case of sensible objects, depends chiefly on the degree in which the describer possesses the power of conception. We may remark, even in common conversation, a striking difference among individuals in

this respect. One man, in attempting to convey a notion of any object he has seen, seems to place it before him, and to paint from actual perception: another, although not deficient in a ready elocution, finds himself in such a situation confused and embarrassed among a number of particulars imperfectly apprehended, which crowd into his mind without any just order and connexion. Nor is it merely to the accuracy of our descriptions that this power is subservient: it contributes more than any thing else to render them striking and expressive to others, by guiding us to a selection of such circumstances as are most prominent and characteristical; insomuch that I think it may reasonably be doubted, if a person would not write a happier description of an object from the conception than from the actual perception of it. It has been often remarked, that the perfection of description does not consist in a minute specification of circumstances, but in a judicious selection of them; and that the best rule for making the selection is, to attend to the particulars that make the deepest impression on our own minds. When the object is actually before us, it is extremely difficult to compare the impressions which different circumstances produce; and the very thought of writing a description, would prevent the impressions which would otherwise take place. When we afterwards conceive the object, the representation of it we form to ourselves, however lively, is merely an outline; and is made up of those circumstances, which really struck us most at the moment; while others of less importance are obliterated. The impression, indeed, which a circumstance makes on the mind,

will vary considerably with the degree of a person's taste; but I am inclined to think, that a man of lively conceptions, who paints from these, while his mind is yet warm from the original scene, can hardly fail to succeed in descriptive composition.

The facts and observations which I have now mentioned, are applicable to conception, as distinguished from imagination. The two powers, however, are very nearly allied; and are frequently so blended, that it is difficult to say, to which of the two, some particular operations of the mind are to be referred. There are also many general facts which hold equally with respect to both. The observations which follow, if they are well founded, are of this number, and might have been introduced with equal propriety under either article. I mention them here, as I shall have occasion to refer to them in the course of the following work, in treating of some subjects, which will naturally occur to our examination, before we have another opportunity of considering this part of our constitution.

It is a common, I believe I may say an universal, doctrine among logicians, that conception (or imagination, which is often used as synonymous with it) is attended with no belief of the existence of its object. "Perception," says Dr. Reid, "is attended "with a belief of the present existence of its object; "memory, with a belief of its past existence; "but imagination is attended with no belief at all; "and was therefore called by the school-men, *ap-* "*prehensio simplex.*"

It is with great diffidence, that I presume to call in question a principle, which has been so generally re-

ceived; yet there are several circumstances which lead me to doubt of it. If it were a specifical distinction between perception and imagination, that the former is always attended with belief, and the latter with none; then the more lively our imagination were of any object, and the more completely that object occupied the attention, the less would we be apt to believe its existence: for it is reasonable to think, that when any of our powers is employed separately from the rest, and there is nothing to withdraw the attention from it, the laws which regulate its operation will be most obvious to our observation, and will be most completely discriminated from those which are characteristical of the other powers of the mind. So very different however is the fact, that it is matter of common remark, that when imagination is very lively, we are apt to ascribe to its objects a real existence, as in the case of dreaming or of madness; and we may add, in the case of those who, in spite of their own general belief of the absurdity of the vulgar stories of apparitions, dare not trust themselves alone with their own imaginations in the dark. That imagination is in these instances attended with belief, we have all the evidence that the nature of the thing admits of; for we feel and act in the same manner as we should do, if we believed that the objects of our attention were real; which is the only proof that metaphysicians produce, or can produce, of the belief which accompanies perception.

In these cases, the fact that I wish to establish is so striking, that it has never been called in question; but in most cases, the impression which the objects

of imagination make on the mind is so momentary, and is so immediately corrected by the surrounding objects of perception, that it has not time to influence our conduct. Hence we are apt to conclude on a superficial view, that imagination is attended with no belief; and the conclusion is surely just in most cases, if by belief we mean a permanent conviction which influences our conduct. But if the word be used in the strict logical sense, I am inclined to think, after the most careful attention to what I experience in myself, that the exercise both of conception and imagination is always accompanied with a belief, that their objects exist. *

*, As the foregoing reasoning, though satisfactory to myself, has not appeared equally so to some of my friends; I should wish the reader to consider the remarks which I now offer, as amounting rather to a query, than to a decided opinion.

May I take the liberty of adding, that one of the arguments which I have stated, in opposition to the common doctrine concerning imagination, appears to me to be authorised, in some measure, by the following reasoning of Dr. Reid's on a different subject? In considering those sudden bursts of passion, which lead us to wreak our vengeance upon inanimate objects, he endeavours to shew, that we have, in such cases, a momentary belief that the object is alive. "I confess," says he, "it seems to be im-
"possible, that there should be resentment against a thing,
"which, at that very moment, is considered as inanimate; and
"consequently incapable either of intending hurt, or of being
"punished. — There must, therefore, I conceive, be some mo-
"mentary notion or conception, that the object of our resent-
"ment is capable of punishment."

In another passage, the same author remarks, that "men may
"be governed, in their practice, by a belief, which, in speculation,
"they reject.

"I knew a man," (says he,) "who was as much convinced as
"any man, of the folly of the popular belief of apparitions in the

When a painter conceives the face and figure of an absent friend, in order to draw his picture, he believes for the moment that his friend is before him. The belief, indeed, is only momentary; for it is extremely difficult, in our waking hours, to keep up a steady and undivided attention to any object we conceive or imagine; and, as soon as the conception or the imagination is over, the belief which attended it is at an end. We find that we can recal and dismiss the objects of these powers at pleasure; and therefore we learn to consider them as creations of the mind, which have no separate and independent existence.

The compatibility of such a speculative disbelief,

"dark: yet he could not sleep in a room alone, nor go alone into "a room into the dark. Can it be said, that his fear did not "imply a belief of danger? This is impossible. Yet his philo- "sophy convinced him, that he was in no more danger in the "dark when alone, than with company. Here an unreasonable "belief, which was merely a prejudice of the nursery, stuck so "fast as to govern his conduct, in opposition to his speculative "belief as a philosopher, and a man of sense."

"There are few persons who can look down from the battle- "ment of a very high tower without fear; while their reason "convinces them, that they are in no more danger than when "standing upon the ground."

These facts are easily explicable, on the supposition, that whenever the objects of imagination engross the attention wholly, (which they may do, in opposition to any speculative opinion with respect to their non-existence,) they produce a temporary belief of their reality.—Indeed, in the last passage, Dr. Reid seems to admit this to be the case; for, to say that a man who has a dread of apparitions, believes himself to be in danger when left alone in the dark, is to say, in other words, that he believes (for the time) that the objects of his imagination are real.

as I have here supposed, of the existence of an object, with a contrary momentary belief, may perhaps be more readily admitted, if the following experiment be considered with attention.

Suppose a lighted candle to be so placed before a concave mirror, that the image of the flame may be seen between the mirror and the eye of the observer. In this case, a person who is acquainted with the principles of optics, or who has seen the experiment made before, has so strong a speculative conviction of the non-existence of the object in that place where he sees its image, that he would not hesitate to put his finger to the apparent flame, without any apprehension of injury.

Suppose, however, that in such a case it were possible for the observer to banish completely from his thoughts all the circumstances of the experiment, and to confine his attention wholly to his perception; would he not believe the image to be a reality; and would he not expect the same consequences from touching it, as from touching a real body in a state of inflammation? If these questions be answered in the affirmative, it will follow; that the effect of the perception, while it engages the attention completely to itself, is to produce belief; and that the speculative disbelief, according to which our conduct in ordinary cases is regulated, is the result of a recollection of the various circumstances with which the experiment is accompanied.

If, in such a case as I have now supposed, the appearance exhibited to us is of such a nature, as to threaten us with any immediate danger, the effect is the same as if we were to banish from our

thoughts the circumstances of the experiment, and to limit our attention solely to what we perceive: for here the belief, which is the first effect of the perception, alarms our fears, and influences our conduct, before reflexion has time to operate. In a very ingenious optical deception, which was lately exhibited in this city, the image of a flower was presented to the spectator; and when he was about to lay hold of it with his hand, a stroke was aimed at him by the image of a dagger. If a person who has seen this experiment is asked, in his cooler moments, whether or not he believes the dagger which he saw to be real, he will readily answer in the negative; and yet the accurate statement of the fact undoubtedly is, that the first and the proper effect of the perception is belief; and that the disbelief he feels, is the effect of subsequent reflexion.

The speculative disbelief which we feel with respect to the illusions of imagination, I conceive to be analogous to our speculative disbelief of the existence of the object exhibited to the eye in this optical deception; as our belief that the illusions of imagination are real, while that faculty occupies the mind exclusively, is analogous to the belief produced by the optical deception while the attention is limited to our perception, and is withdrawn from the circumstances in which the experiment is made. *

* It may appear to some readers rather trifling to add, and yet to others the remark may not be altogether superfluous, that it is not my intention to insinuate by the foregoing illustrations,

These observations lead me to take notice of a circumstance with respect to the belief accompanying perception, which it appears to me necessary to state, in order to render Dr. Reid's doctrine on that subject completely satisfactory. He has shewn, that certain sensations are, by a law of our nature, accompanied with an irresistible belief of the existence of certain qualities of external objects. But this law extends no farther than to the present existence of the quality; that is, to its existence while we feel the corresponding sensation. Whence is it then, that we ascribe to the quality, an existence independent of our perception? I apprehend we learn to do this by experience alone. We find that we cannot, as in the case of imagination, dismiss or recall the perception of an external object. If I open my eyes, I cannot prevent myself from seeing the prospect which is before me. I learn, therefore, to ascribe to the objects of my senses, not only an existence at the time I perceive them, but an independent and a permanent existence.

It is a strong confirmation of this doctrine, that in sleep, when (as I shall endeavour afterwards to shew) the influence of the will over the train of our thoughts is suspended, and when, of consequence, the time of their continuance in the mind is not regulated by us, we ascribe to the objects of imagination an independent and permanent existence,

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that the relation between perception and imagination has the most distant analogy to that between the perception of the object, and the perception of its optical image.

as we do when awake to the objects of perception. The same thing happens in those kinds of madness, in which a particular idea takes possession of the attention, and occupies it to the exclusion of every thing else. Indeed, madness seems in many cases to arise entirely from a suspension of the influence of the will over the succession of our thoughts; in consequence of which, the objects of imagination appear to have an existence independent of our volition; and are therefore, agreeably to the foregoing doctrine, mistaken for realities.

Numberless other illustrations of the same general fact occur to me; but the following is, I think, one of the most striking. I mention it, in preference to the rest, as it appears to me to connect the doctrine in question with some principles which are now universally admitted among philosophers.

The distinction between the original and the acquired perceptions of sight, is familiarly known to every one who has the slightest acquaintance with the elements of optics. That this sense, prior to experience, conveys to us the notion of extension in two dimensions only, and that it gives us no information concerning the distances at which objects are placed from the eye, are propositions which nobody, I presume, in the present state of science, will be disposed to controvert. In what manner we are enabled, by a comparison between the perceptions of sight and those of touch, to extend the province of the former sense to a variety of qualities originally perceived by the latter sense only, optical writers have explained at great length;

but it is not necessary for my present purpose to enter into any particular details with respect to their reasonings on the subject. It is sufficient for me to remark, that, according to the received doctrine, the original perceptions of sight become, in consequence of experience, signs of the tangible qualities of external objects, and of the distances at which they are placed from the organ; and that, although the knowledge we obtain, in this manner, of these qualities and distances, seems, from early and constant habits, to be an instantaneous perception; yet, in many cases, it implies an exercise of the judgment, being founded on a comparison of a variety of different circumstances.

From these principles, it is an obvious consequence, that the knowledge we obtain, by the eye, of the tangible qualities of bodies, involves the exercise of conception, according to the definition of that power which has already been given. In ordinary discourse, indeed, we ascribe this knowledge, on account of the instantaneousness with which it is obtained, to the power of perception; but if the common doctrine on the subject be just, it is the result of a complex operation of the mind; comprehending, first, the perception of those qualities, which are the proper and original objects of sight; and, secondly, the conception of those tangible qualities of which the original perceptions of sight are found from experience to be the signs. The notions, therefore, we form, by means of the eye, of the tangible qualities of bodies, and of the distances of these objects from the organ, are mere conceptions; strongly, and indeed indissolubly as-

sociated, by early and constant habit, with the original perceptions of sight.

When we open our eyes on a magnificent prospect, the various distances at which all its different parts are placed from the eye, and the immense extent of the whole scene before us, seem to be perceived as immediately, and as instantaneously, by the mind, as the coloured surface which is painted on the retina. The truth, however, unquestionably is, that this variety of distance, and this immensity of extent, are not objects of sense but of conception; and the notions we form of them when our eyes are open, differ from those we should form of them with our eyes shut, only in this, that they are kept steadily in the view of the mind, by being strongly associated with the sensations of colour, and with the original perceptions of sight. — This observation will be the more readily admitted, if it be considered, that, by a skilful imitation of a natural landscape, in a common shew-box, the mind may be led to form the same notions of variety of distance, and even of immense extent, as if the original scene were presented to our senses: and that, although, in this case, we have a speculative conviction that the sphere of our vision only extends to a few inches; yet so strong is the association between the original perceptions of sight, and the conceptions which they habitually produce, that it is not possible for us, by any effort of our will, to prevent these conceptions from taking place.

From these observations it appears, that when the conceptions of the mind are rendered steady and permanent, by being strongly associated with any

sensible impression, they command our belief no less than our actual perceptions; and, therefore, if it were possible for us, with our eyes shut, to keep up, for a length of time, the conception of any sensible object, we should, as long as this effort continued, believe that the object was present to our senses.

It appears to me to be no slight confirmation of these remarks, that although, in the dark, the illusions of imagination are much more liable to be mistaken for realities, than when their momentary effects on the belief are continually checked and corrected by the objects which the light of day presents to our perceptions; yet, even total darkness is not so alarming to a person impressed with the vulgar stories of apparitions, as a faint and doubtful twilight, which affords to the conceptions an opportunity of fixing and prolonging their existence, by attaching themselves to something which is obscurely exhibited to the eye.—In like manner, when we look through a fog, we are frequently apt to mistake a crow for a man; and the conception we have, upon such an occasion, of the human figure, is much more distinct and much more steady, than it would be possible for us to form, if we had no sensible object before us; insomuch that when, on a more attentive observation, the crow shrinks to its own dimensions, we find it impossible, by any effort, to conjure up the phantom which a moment before we seemed to perceive.

If these observations are admitted, the effects which exhibitions of fictitious distress produce on the mind, will appear less wonderful, than they are supposed to be. During the representation of a

tragedy, I acknowledge, that we have a general conviction that the whole is a fiction; but, I believe, it will be found, that the violent emotions which are sometimes produced by the distresses of the stage, take their rise, in most cases, from a momentary belief, that the distresses are real. I say, in most cases; because, I acknowledge, that, independently of any such belief, there is something contagious in a faithful expression of any of the passions.

The emotions produced by tragedy are, upon this supposition, somewhat analogous to the dread we feel when we look down from the battlement of a tower.* In both cases, we have a general conviction, that there is no ground for the feelings we experience; but the momentary influences of imagination are so powerful as to produce these feelings, before reflexion has time to come to our relief.

* With respect to the dread which we feel in looking down from the battlement of a tower, it is curious to remark the effects of habit in gradually destroying it. The manner in which habit operates in this case, seems to be by giving us a command over our thoughts, so as to enable us to withdraw our attention from the precipice before us, and direct it to any other object at pleasure. It is thus that the mason and the sailor not only can take precautions for their own safety, but remain completely masters of themselves in situations where other men, engrossed with their imaginary danger, would experience a total suspension of their faculties. Any strong passion which occupies the mind produces, for the moment, the same effect with habit. A person alarmed with the apprehension of fire, has been known to escape from the top of a house by a path, which, at another time, he would have considered as impracticable; and soldiers, in mounting a breach, are said to have sometimes found their way to the enemy, by a route which appeared inaccessible after their violent passions had subsided.

CHAPTER FOURTH.

Of Abstraction.

SECTION I.

General Observations on this Faculty of the Mind.

THE origin of appellatives, or, in other words, the origin of those classes of objects which, in the schools, are called *genera* and *species*, has been considered by some philosophers as one of the most difficult problems in metaphysics. The account of it which is given by Mr. Smith, in his Dissertation on the Origin of Languages, appears to me to be equally simple and satisfactory.

"The assignation" (says he) "of particular "names, to denote particular objects; that is, the "institution of nouns substantive; would probably "be one of the first steps towards the formation of "Language. The particular cave, whose covering "sheltered the savage from the weather; the par-"ticular tree, whose fruit relieved his hunger; the "particular fountain, whose water allayed his thirst; "would first be denominated by the words cave, "tree, fountain; or by whatever other appellations "he might think proper, in that primitive jargon, "to mark them. Afterwards, when the more en-

" larged experience of this savage had led him to " observe, and his necessary occasions obliged him " to make mention of, other caves, and other trees, " and other fountains; he would naturally bestow " upon each of those new objects, the same name by " which he had been accustomed to express the " similar object he was first acquainted with. And " thus, those words, which were originally the pro- " per names of individuals, would each of them " insensibly become the common name of a mul- " titude." *

" It is this application" (he continues) " of the " name of an individual to a great number of ob- " jects, whose resemblance naturally recalls the idea " of that individual, and of the name which expresses " it, that seems originally to have given occasion to " the formation of those classes, and assortments, " which, in the schools, are called *genera* and " *species*; and of which the ingenious and eloquent " Rousseau finds himself so much at a loss to ac- " count for the origin. What constitutes a *species*, " is merely a number of objects, bearing a certain " degree of resemblance to one another; and, on " that account, denominated by a single appellation, " which may be applied to express any one of them." †

* The same account of the progress of the mind in the formation of *genera*, is given by the Abbé de Condillac.

" Un enfant appelle du nom d'*Arbre* le premier arbre que nous " lui montrons. Un second arbre qu'il voit ensuite lui rapelle la " même idée; il lui donne le même nom; de même à un troisième, " à un quatrième, et voilà le mot d'*Arbre* donné d'abord à un " individu, qui devient pour lui un nom de classe ou de genre, " une idée abstraite qui comprend tous les arbres en général."

† Dissertation on the Origin of Languages, annexed to Mr. Smith's Theory of Moral Sentiments.

This view of the natural progress of the mind, in forming classifications of external objects, receives some illustration from a fact mentioned by Captain Cook in his account of a small island called Wateeoo, which he visited in sailing from New Zealand to the Friendly Islands. "The inhabitants," says he, "were afraid to come near our cows and horses, nor "did they form the least conception of their nature. "But the sheep and goats did not surpass the limits "of their ideas; for they gave us to understand that "they knew them to be birds. It will appear," he adds, "rather incredible, that human ignorance "could ever make so strange a mistake, there not "being the most distant similitude between a sheep "or goat, and any winged animal. But these people "seemed to know nothing of the existence of any "other land animals, besides hogs, dogs, and birds. "Our sheep and goats, they could see, were very "different creatures from the two first, and there-"fore they inferred that they must belong to the "latter class, in which they knew that there is a "considerable variety of species."—I would add to Cook's very judicious remarks, that the mistake of these islanders probably did not arise from their considering a sheep or a goat as bearing a more striking resemblance to a bird, than to the two classes of quadrupeds with which they were acquainted; but to the want of a generic word, such as *quadruped*, comprehending these two species; which men in their situation would no more be led to form, than a person who had only seen one individual of each species, would think of an appellative to express both, instead of applying a proper

name to each. In consequence of the variety of birds, it appears, that they had a generic name comprehending all of them, to which it was not unnatural for them to refer any new animal they met with.

The classification of different objects supposes a power of attending to some of their qualities or attributes, without attending to the rest; for no two objects are to be found without some specific difference; and no assortment or arrangement can be formed among things not perfectly alike, but by losing sight of their distinguishing peculiarities, and limiting the attention to those attributes which belong to them in common. Indeed, without this power of attending separately to things which our senses present to us in a state of union, we never could have had any idea of *number;* for, before we can consider different objects as forming a multitude, it is necessary that we should be able to apply to all of them one common name; or, in other words, that we should reduce them all to the same genus. The various objects, for example, animate and inanimate, which are, at this moment, before me, I may class and number in a variety of different ways, according to the view of them that I chuse to take. I may reckon successively the number of sheep, of cows, of horses, of elms, of oaks, of beeches; or I may first reckon the number of animals, and then the number of trees; or I may at once reckon the number of all the organised substances which my senses present to me. But whatever be the principle on which my classification proceeds, it is evident that the objects numbered together, must be con-

sidered in those respects only in which they agree with each other; and that, if I had no power of separating the combinations of sense, I never could have conceived them as forming a plurality.

This power of considering certain qualities or attributes of an object apart from the rest; or, as I would rather chuse to define it, the power which the understanding has, of separating the combinations which are presented to it, is distinguished by logicians by the name of *abstraction*. It has been supposed, by some philosophers, (with what probability I shall not now inquire,) to form the characteristical attribute of a rational nature. That it is one of the most important of all our faculties, and very intimately connected with the exercise of our reasoning powers, is beyond dispute. And, I flatter myself, it will appear from the sequel of this chapter, how much the proper management of it conduces, to the success of our philosophical pursuits, and of our general conduct in life.

The subserviency of Abstraction to the power of Reasoning, and also, its subserviency to the exertions of a Poetical or Creative Imagination, shall be afterwards fully illustrated. At present, it is sufficient for my purpose to remark, that as abstraction is the ground-work of classification, without this faculty of the mind we should have been perfectly incapable of general speculation, and all our knowledge must necessarily have been limited to individuals; and that some of the most useful branches of science, particularly the different branches of mathematics, in which the very subjects of our reasoning are abstractions of the understanding, could never have

possibly had an existence. With respect to the subserviency of this faculty to poetical imagination, it is no less obvious, that, as the poet is supplied with all his materials by experience; and as his province is limited to combine and modify things which really exist, so as to produce new wholes of his own; so every exertion which he thus makes of his powers, presupposes the exercise of abstraction in decomposing and separating actual combinations. And it was on this account that, in the chapter on Conception, I was led to make a distinction between that faculty, which is evidently simple and uncompounded, and the power of Imagination, which (at least in the sense in which I employ the word in these inquiries) is the result of a combination of various other powers.

I have introduced these remarks, in order to point out a difference between the abstractions which are subservient to reasoning, and those which are subservient to imagination. And, if I am not mistaken, it is a distinction which has not been sufficiently attended to by some writers of eminence. In every instance in which imagination is employed in forming new wholes, by decompounding and combining the perceptions of sense, it is evidently necessary that the poet or the painter should be able to state to himself the circumstances abstracted, as separate objects of conception. But this is by no means requisite in every case in which abstraction is subservient to the power of reasoning; for it frequently happens, that we can reason concerning one quality or property of an object abstracted from the rest, while, at the same time, we find it impossible to

conceive it separately. Thus, I can reason concerning extension and figure, without any reference to colour; although it may be doubted, if a person possessed of sight can make extension and figure steady objects of conception, without connecting with them one colour or another. Nor is this always owing (as it is in the instance now mentioned) merely to the association of ideas; for there are cases, in which we can reason concerning things separately, which it is impossible for us to suppose any being so constituted as to conceive apart. Thus, we can reason concerning length, abstracted from any other dimension; although, surely, no understanding can make length, without breadth, an object of conception. And, by the way, this leads me to take notice of an error, which mathematical teachers are apt to commit, in explaining the first principles of geometry. By dwelling long on Euclid's first definitions, they lead the student to suppose that they relate to notions which are extremely mysterious; and to strain his powers in fruitless attempts to conceive, what cannot possibly be made an object of conception. If these definitions were omitted, or very slightly touched upon, and the attention at once directed to geometrical reasonings, the student would immediately perceive, that although the lines in the diagrams are really extended in two dimensions, yet that the demonstrations relate only to one of them; and that the human understanding has the faculty of reasoning concerning things separately, which are always presented to us, both by our powers of perception and conception, in a state of union. Such abstractions, in truth, are familiar to

the most illiterate of mankind; and it is in this very way that they are insensibly formed. When a tradesman speaks of the length of a room, in contradistinction to its breadth; or when he speaks of the distance between any two objects; he forms exactly the same abstraction, which is referred to by Euclid in his second definition; and which most of his commentators have thought it necessary to illustrate by prolix metaphysical disquisitions.

I shall only observe farther, with respect to the nature and province of this faculty of the mind, that notwithstanding its essential subserviency to every act of classification, yet it might have been exercised, although we had only been acquainted with one individual object. Although, for example, we had never seen but one rose, we might still have been able to attend to its colour, without thinking of its other properties. This has led some philosophers to suppose, that another faculty besides abstraction, to which they have given the name of generalisation, is necessary to account for the formation of genera and species; and they have endeavoured to shew, that although generalisation without abstraction is impossible; yet that we might have been so formed, as to be able to abstract, without being capable of generalising. The grounds of this opinion, it is not necessary for me to examine, for any of the purposes which I have at present in view.

SECTION II.

Of the Objects of our Thoughts, when we employ general Terms.

From the account which was given in a former chapter, of the common theories of perception, it appears to have been a prevailing opinion among philosophers, that the qualities of external objects are perceived, by means of images or species transmitted to the mind by the organs of sense: an opinion of which I already endeavoured to trace the origin, from certain natural prejudices suggested by the phenomena of the material world. The same train of thinking has led them to suppose that, in the case of all our other intellectual operations, there exist in the mind certain ideas distinct from the mind itself; and that these ideas are the objects about which our thoughts are employed. When I recollect, for example, the appearance of an absent friend, it is supposed that the immediate object of my thoughts is an *idea* of my friend; which I at first received by my senses, and which I have been enabled to retain in the mind by the faculty of memory. When I form to myself any imaginary combination by an effort of poetical invention, it is supposed, in like manner, that the parts which I combine, existed previously in the mind; and furnish the materials on which it is the province of imagination to operate. It is to Dr. Reid we owe the important remark, that all these notions are wholly hypothetical; that it is impossible to produce

a shadow of evidence in support of them; and that, even although we were to admit their truth, they would not render the phenomena in question more intelligible. According to his principles, therefore, we have no ground for supposing, that, in any one operation of the mind, there exists in it an object distinct from the mind itself; and all the common expressions which involve such a supposition, are to be considered as unmeaning circumlocutions, which serve only to disguise from us the real history of the intellectual phenomena. *

* In order to prevent misapprehensions of Dr. Reid's meaning in his reasonings against the ideal theory, it may be necessary to explain, a little more fully than I have done in the text, in what sense he calls in question the existence of *ideas*: for the meaning which this word is employed to convey in popular discourse, differs widely from that which is annexed to it by the philosophers whose opinion he controverts. This explanation I shall give in his own words:

"In popular language, idea signifies the same thing as conception, apprehension, notion. To have an idea of any thing, is to conceive it. To have a distinct idea, is to conceive it distinctly. To have no idea of it, is not to conceive it at all. — When the word idea is taken in this popular sense, no man can possibly doubt whether he has ideas."

"According to the philosophical meaning of the word *idea*, it does not signify that act of the mind which we call thought, or conception, but some *object* of thought. Of these objects of thought called ideas, different sects of philosophers have given very different accounts."

"Some have held them to be self-existent; others to be in the divine mind; others in our own minds; and others in the brain, or sensorium." P. 213.

"The Peripatetick system of species and phantasms, as well as the Platonick system of ideas, is grounded upon this principle, that in every kind of thought, there must be some ob-

"We are at a loss to know," (says this excellent philosopher,) "how we perceive distant objects; "how we remember things past; how we imagine "things that have no existence. Ideas in the mind "seem to account for all these operations; they are "all by the means of ideas reduced to one opera- "tion; to a kind of feeling, or immediate perception "of things present, and in contact with the perci- "pient; and feeling is an operation so familiar, "that we think it needs no explanation, but may "serve to explain other operations."

"object that really exists; in every operation of the mind, "something to work upon. Whether this immediate object "be called an idea with Plato, or a phantasm or species with "Aristotle; whether it be eternal and uncreated, or produced "by the impressions of external objects, is of no consequence "in the present argument." Ibid. p. 388.

"So much is this opinion fixed in the minds of philosophers, "that, I doubt not but it will appear to most, a very strange "paradox, or rather a contradiction, that men should think "without ideas. But this appearance of contradiction arises "from the ambiguity of the word idea. If the idea of a thing "means only the thought of it, which is the most common "meaning of the word, to think without ideas, is to think "without thought; which is undoubtedly a contradiction. "But an idea, according to the definition given of it by phi- "losophers, is not thought, but an object of thought, which "really exists, and is perceived, &c." Ibid. p. 390.

I have only to add, that when, in this work, I make use of the word idea in stating my own opinions, I employ it uniformly in the popular sense, and not in the philosophical sense, as now explained; it would be better, perhaps, to avoid it altogether: but I have found it difficult to do so, without adopting unusual modes of expression. I flatter myself that I have used it with due caution.

"But this feeling, or immediate perception, is as "difficult to be comprehended, as the things which "we pretend to explain by it. Two things may be "in contact, without any feeling or perception; "there must therefore be in the percipient, a power "to feel, or to perceive. How this power is pro- "duced, and how it operates, is quite beyond the "reach of our knowledge. As little can we know, "whether this power must be limited to things pre- "sent, and in contact with us. Neither can any "man pretend to prove, that the Being who gave "us the power to perceive things present, may not "give us the power to perceive things distant, to "remember things past, and to conceive things that "never existed." *

In another part of this work, Dr. Reid has occasion to trace the origin of the prejudice which has led philosophers to suppose, that, in all the operations of the understanding, there must be an object of thought, which really exists while we think of it. His remarks on this subject, which are highly ingenious and satisfactory, are contained in his account of the different theories concerning conception. †

As in all the ancient metaphysical systems it was taken for granted, (probably from the analogy of our external perceptions,) that every exertion of thought implies the existence of an object distinct from the thinking being; it naturally occurred, as a very curious question, What is the immediate object of our attention, when we are engaged in any general speculation; or, in other words, what is the

* Essays on the Intellectual Powers, p. 214. † Ibid. p. 378.

nature of the idea corresponding to a general term? When I think of any particular object which I have formerly perceived, such as a particular friend, a particular tree, or a particular mountain, I can comprehend what is meant by a picture or representation of such objects: and therefore the explanation given by the ideal theory of that act of the mind which we formerly called Conception, if not perfectly satisfactory, is at least not wholly unintelligible. But what account shall we give, upon the principles of this theory, of the objects of my thoughts, when I employ the words, friend, tree, mountain, as generic terms? For, that all the things I have ever perceived are individuals; and consequently, that the ideas denoted by general words, (if such ideas exist,) are not copied from any originals that have fallen under my observation; is not only self-evident, but almost an identical proposition.

In answer to this question, the Platonists, and, at a still earlier period, the Pythagoreans, taught, that, although these universal ideas are not copied from any objects perceivable by sense, yet that they have an existence independent of the human mind, and are no more to be confounded with the understanding, of which they are the proper objects, than material things are to be confounded with our powers of external perception; that as all the individuals which compose a genus, must possess something in common; and as it is in consequence of this, that they belong to that genus, and are distinguishable by the same name, this common thing forms the essence of each; and is the object of the under-

standing, when we reason concerning the genus. They maintained also, that this common* essence, notwithstanding its inseparable union with a multitude of different individuals, is in itself one, and indivisible.

On most of these points, the philosophy of Aristotle seems to have coincided very nearly with that of Plato. The language, however, which these philosophers employed on this subject was different, and gave to their doctrines the appearance of a wider diversity than probably existed between their opinions. While Plato was led, by his passion for the marvellous and the mysterious, to insist on the incomprehensible union of the same idea or essence, with a number of individuals, without multiplication or division †; Aristotle, more cautious, and aiming at greater perspicuity, contented himself with saying, that all individuals are composed of matter and

* In this very imperfect sketch of the opinions of the ancients concerning universals, I have substituted, instead of the word *idea*, the word *essence*, as better fitted to convey to a modern reader the true import of Plato's expressions. The word *essentia* is said to have been first employed by Cicero; and it was afterwards adopted by the schoolmen, in the same sense in which the Platonists used the word *idea*. See Dr. REID's Essays on the Intellectual Powers, p. 473.

† "The idea of a thing," (says Plato,) "is that which makes "*one* of the *many*; which, preserving the unity and integrity of "its own nature, runs through and mixes with things infinite in "number; and yet, however multiform it may appear, is always "the same: so that by it we find out and discriminate the "thing, whatever shapes it may assume, and under whatever "disguise it may conceal itself."—PLATO in PHILEBO; (quoted by the Author of the Origin and Progress of Language, vol. i. p. 100. 2d. edit.)

form; and that it is in consequence of possessing a common form, that different individuals belong to the same genus. But they both agreed, that, as the matter, or the individual natures of objects were perceived by sense; so the general idea, or essence, or form, was perceived by the intellect; and that, as the attention of the vulgar was chiefly engrossed with the former, so the latter furnished to the philosopher the materials of his speculations.

The chief difference between the opinions of Plato and Aristotle on the subject of ideas, related to the mode of their existence. That the matter of which all things are made, existed from eternity, was a principle which both admitted; but Plato farther taught, that, of every species of things, there is an idea of form which also existed from eternity; and that this idea is the exemplar or model according to which the individuals of the species were made; whereas Aristotle held, that, although matter may exist without form, yet that forms could not exist without matter. *

* In this account of the difference between Plato and Aristotle on the subject of ideas, I have chiefly followed Brucker, whose very laborious researches with respect to this article of the history of philosophy are well known. In stating the distinction, however, I have confined myself to as general terms as possible; as the subject is involved in much obscurity, and has divided the opinions of very eminent writers. The reader will find the result of Brucker's inquiries, in his own words, in Note (F).

The authority of Brucker, in this instance, has the more weight with me, as it coincides in the most material respects with that of Dr. Reid. See his Essays on the Intellectual Powers of Man, and the conclusion of his Inquiry into the Human Mind.

A very different account of Aristotle's doctrine, in those par-

The doctrine of the Stoics concerning universals, differed widely from those both of Plato and Aristotle, and seems to have approached to a speculation which is commonly supposed to be of a more recent origin, and which an eminent philosopher of the present age has ranked among the discoveries which do the greatest honour to modern genius. *

Whether this doctrine of the Stoics coincided entirely with that of the Nominalists, (whose opinions I shall afterwards endeavour to explain,) or whether it did not resemble more, a doctrine maintained by another sect of schoolmen called Conceptualists, I shall not inquire. The determination of this question is interesting only to men of erudition; for the knowledge we possess of this part of the Stoical philosophy, is too imperfect to assist us in the farther prosecution of the argument, or even to diminish

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ticulars in which it is commonly supposed to differ from that of Plato, is given by two modern writers of great learning, whose opinions are justly entitled to much respect, from their familiar acquaintance with Aristotle's latter Commentators of the Alexandrian School. — See Origin and Progress of Language, vol. i., and HARRIS's Hermes.

It is of no consequence, for any of the purposes which I have at present in view, what opinion we form on this much controverted point of philosophical history. In so far as the ideal theory was an attempt to explain the manner in which our general speculations are carried on, it is agreed on all hands, that the doctrines of Plato and Aristotle were essentially the same; and accordingly, what I have said on that subject, coincides entirely with a passage which the reader will find in "Origin and Progress of Language," vol. i. p. 38. 2d edit.

* Treatise of Human Nature, book i. part i. sect. 7.

the merit of those philosophers who have, in modern times, been led to similar conclusions.*

As it is not my object, in this work, to enter into historical details, any farther than is necessary for illustrating the subjects of which I treat, I shall pass over the various attempts which were made by the Eclectic philosophers, (a sect which arose at Alexandria about the beginning of the third century,) to reconcile the doctrines of Plato and Aristotle concerning ideas. The endless difficulties, it would appear, to which their speculations led, induced, at last, the more cautious and modest inquirers to banish them entirely from Dialectics, and to content themselves with studying the arrangements or classifications of universals, which the ancient philosophers had made, without engaging in any metaphysical disquisitions concerning their nature. Porphyry, in particular, although he tells us, that he has speculated much on this subject; yet, in his Introduction to Aristotle's Categories, waves the consideration of it as obscure and intricate. On such questions as these; "Whether genera and species "exist in nature, or are only conceptions of the "Human Mind; and (on the supposition that "they exist in nature) whether they are inherent in "the objects of sense, or disjoined from them?" he declines giving any determination.

This passage in Porphyry's Introduction is an object of curiosity; as, by a singular concurrence of circumstances, it served to perpetuate the memory of a controversy from which it was the author's intention to divert the inquiries of his readers. Amidst

* See Note [G].

the disorders produced by the irruptions of the Barbarians, the knowledge of the Greek tongue was almost entirely lost; and the studies of philosophers were confined to Latin versions of Aristotle's Dialectics, and of Porphyry's Introduction concerning the Categories. With men who had a relish for such disquisitions, it is probable that the passage already quoted from Porphyry, would have a tendency rather to excite than to damp curiosity; and accordingly, we have reason to believe, that the controversy to which it relates continued, during the dark ages, to form a favourite subject of discussion. The opinion which was prevalent was, (to use the scholastic language of the times,) that universals do not exist *before* things, nor *after* things, but *in* things; that is, (if I may be allowed to attempt a commentary upon expressions to which I do not pretend to be able to annex very precise notions,) universal ideas have not (as Plato thought) an existence separable from individual objects; and therefore, they could not have existed prior to them in the order of time; nor yet, (according to the doctrine of the Stoics,) are they mere conceptions of the mind, formed in consequence of an examination and comparison of particulars; but these ideas or forms are from eternity united inseparably with that matter of which things consist; or, as the Aristotelians sometimes express themselves, the forms of things are from eternity immersed in matter.—The reader will, I hope, forgive me for entering into these details, not only on account of their connexion with the observations which are to follow; but as they relate to a controversy which, for many ages, em-

ployed all the ingenuity and learning in Europe; and which, therefore, however frivolous in itself, deserves the attention of philosophers, as one of the most curious events which occurs in the history of the Human Mind.

Such appears to have been the prevailing opinion concerning the nature of universals, till the eleventh century; when a new doctrine, or (as some authors think) a doctrine borrowed from the school of Zeno, was proposed by Roscelinus*; and soon after very widely propagated over Europe by the abilities and eloquence of one of his scholars, the celebrated Peter Abelard. According to these philosophers, there are no existences in nature corresponding to general terms; and the objects of our attention in all our general speculations are not ideas, but words.

In consequence of this new doctrine, the schoolmen gradually formed themselves into two sects: one of which attached itself to the opinions of Roscelinus and Abelard; while the other adhered to the principles of Aristotle. Of these sects, the former are known in literary history by the name of the Nominalists; the latter by that of the Realists.

As it is with the doctrine of the Nominalists that my own opinion on this subject coincides; and as I propose to deduce from it some consequences, which appear to me important, I shall endeavour to state it as clearly and precisely as I am able, pursuing, however, rather the train of my own thoughts, than guided by the reasons of any particular author.

I formerly explained in what manner the words, which, in the infancy of language, were proper

See Note [H].

names, became gradually appellatives; in consequence of which extension of their signification, they would express, when applied to individuals, those qualities only which are common to the whole genus. Now, it is evident, that, with respect to individuals of the same genus, there are two classes of truths; the one, particular truths relating to each individual apart, and deduced from a consideration of its peculiar and distinguishing properties; the other, general truths, deduced from a consideration of their common qualities; and equally applicable to all of them. Such truths may be conveniently expressed, by means of general terms; so as to form propositions, comprehending under them as many particular truths, as there are individuals comprehended under the general terms. It is farther evident, that there are two ways in which such general truths may be obtained; either by fixing the attention on one individual, in such a manner that our reasoning may involve no circumstances but those which are common to the whole genus; or, (laying aside entirely the consideration of things,) by means of the general terms with which language supplies us. In either of these cases, our investigations must necessarily lead us to general conclusions. In the first case; our attention being limited to those circumstances, in which the subject of our reasoning resembles all other individuals of the same genus, whatever we demonstrate with respect to this subject must be true of every other to which the same attributes belong. In the second case; the subject of our reasoning being expressed by a generic word, which applies in common to a

number of individuals, the conclusion we form must be as extensive in its application, as the name of the subject is in its meaning. The former process is analogous to the practice of geometers, who, in their most general reasonings, direct the attention to a particular diagram: the latter, to that of algebraists, who carry on their investigations by means of symbols. * In cases of this last sort, it may frequently happen, from the association of ideas, that a general word may recal some one individual to which it is applicable; but this is so far from being necessary to the accuracy of our reasoning, that, excepting in some cases, in which it may be useful to check us in the abuse of general terms, it always has a tendency, more or less, to mislead us from the truth. As the decision of a judge must necessarily be impartial, when he is only acquainted with the relations in which the parties stand to each other, and when their names are supplied by letters of the alphabet, or by the fictitious names of Titius, Caius, and Sempronius; so, in every process of reasoning, the conclusion we form is most likely to be logically just, when the attention is confined solely to signs;

* These two methods of obtaining general truths proceed on the same principles; and are, in fact, much less different from each other, than they appear to be at first view. When we carry on a process of general reasoning, by fixing our attention on a particular individual of a genus, this individual is to be considered merely as a sign or representative; and differs from any other sign only in this, that it bears a certain resemblance to the things it denotes.— The straight lines which are employed in the fifth book of Euclid to represent magnitudes in general, differ from the algebraical expressions of these magnitudes, in the same respects in which picture-writing differs from arbitrary characters.

and when the imagination does not present to it those individual objects which may warp the judgment by casual associations.

To these remarks, it may not be improper to add, that, although in our speculations concerning individuals, it is possible to carry on processes of reasoning, by fixing our attention on the objects themselves, without the use of language; yet it is also in our power to accomplish the same end, by substituting for these objects, words, or other arbitrary signs. The difference between the employment of language in such cases, and in our speculations concerning classes or genera, is; that in the former case the use of words is, in a great measure, optional; whereas, in the latter, it is essentially necessary. This observation deserves our attention the more, that, if I am not mistaken, it has contributed to mislead some of the Realists; by giving rise to an idea, that the use of language, in thinking about universals, however convenient, is not more necessary than in thinking about individuals.

According to this view of the process of the mind, in carrying on general speculations, that IDEA which the ancient philosophers considered as the essence of an individual, is nothing more than the particular quality or qualities in which it resembles other individuals of the same class; and in consequence of which, a generic name is applied to it. It is the possession of this quality, that entitles the individual to the generic appellation; and which, therefore, may be said to be essential to its classification with that particular genus; but as all classifications are to a certain degree arbitrary, it does not necessarily

follow, that it is more essential to its existence as an individual, than various other qualities which we are accustomed to regard as accidental. In other words, (if I may borrow the language of modern philosophy,) this quality forms its nominal, but not its real essence.

These observations will, I trust, be sufficient for the satisfaction of such of my readers as are at all conversant with philosophical inquiries. For the sake of others, to whom this disquisition may be new, I have added the following illustrations.

I shall have occasion to examine, in another part of my work, how far it is true, (as is commonly believed,) that every process of reasoning may be resolved into a series of syllogisms; and to point out some limitations, with which, I apprehend, it is necessary that this opinion should be received. As it would lead me, however, too far from my present subject, to anticipate any part of the doctrine which I am then to propose, I shall, in the following remarks, proceed on the supposition, that the syllogistic theory is well-founded; a supposition which, although not strictly agreeable to truth, is yet sufficiently accurate for the use which I am now to make of it. Take then, any step of one of Euclid's demonstrations; for example, the first step of his first proposition, and state it in the form of a syllogism. — "All straight lines, drawn from the centre "of a circle to the circumference, are equal to one "another." "But A B, and C D, are straight lines, "drawn from the centre of a circle to the circum-"ference. Therefore, A B is equal to C D." — It is perfectly manifest, that, in order to feel the

force of this conclusion, it is by no means necessary, that I should annex any particular notions to the letters A B, or C D, or that I should comprehend what is meant by *equality*, or by a *circle*, its *centre*, and its *circumference*. Every person must be satisfied, that the truth of the conclusion is necessarily implied in that of the two premises; whatever the particular things may be to which these premises may relate. In the following syllogism, too:—"All men must die;—Peter is a man;—therefore Peter must die;"—the evidence of the conclusion does not in the least depend on the particular notions I annex to the words *man*, and *Peter;* but would be equally complete, if we were to substitute instead of them, two letters of the alphabet, or any other insignificant characters.—"All X's must die;—Z is an X; therefore Z must die;"—is a syllogism which forces the assent no less than the former. It is farther obvious, that this syllogism would be equally conclusive, if, instead of the word *die*, I were to substitute any other verb that the language contains; and, that, in order to perceive the justness of the inference, it is not even necessary that I should understand its meaning.

In general, it might be easily shewn, that all the rules of logic, with respect to syllogisms, might be demonstrated, without having recourse to any thing but letters of the alphabet; in the same manner, (and I may add, on the very same principles,) on which the algebraist demonstrates, by means of these letters, the various rules for transposing the terms of an equation.

From what has been said, it follows, that the assent

we give to the conclusion of a syllogism does not result from any examination of the notions expressed by the different propositions of which it is composed, but is an immediate consequence of the relations in which the words stand to each other. The truth is, that in every syllogism, the inference is only a particular instance of the general axiom, that whatever is true universally of any sign, must also be true of every individual which that sign can be employed to express. Admitting, therefore, that every process of reasoning may be resolved into a series of syllogisms, it follows, that this operation of the mind furnishes no proof of the existence of any thing corresponding to general terms, distinct from the individuals to which these terms are applicable.

These remarks, I am very sensible, do, by no means, exhaust the subject; for there are various modes of reasoning, to which the syllogistic theory does not apply. But, in all of them, without exception, it will be found, on examination, that the evidence of our conclusions appears immediately from the consideration of the words in which the premises are expressed; without any reference to the things which they denote. The imperfect account which is given of deductive evidence, in the received systems of logic, makes it impossible for me, in this place, to prosecute the subject any farther.

After all that I have said on the use of language as an instrument of reasoning, I can easily foresee a variety of objections, which may occur to the doctrine I have been endeavouring to establish. But, without entering into a particular examination of these objections, I believe I may venture to affirm,

that most, if not all, of them take their rise from confounding reasoning, or deduction, properly so called, with certain other intellectual processes, which it is necessary for us to employ in the investigation of truth. That it is frequently of essential importance to us, in our speculations, to withdraw our attention from words, and to direct it to the things they denote, I am very ready to acknowledge. All that I assert is, that, in so far as our speculations consist of that process of the mind which is properly called reasoning, they may be carried on by words alone; or, which comes to the same thing, that every process of reasoning is perfectly analogous to an algebraical operation. What I mean by "the other intellectual processes distinct from rea-"soning, which it is necessary for us sometimes to "employ in the investigation of truth," will, I hope, appear clearly from the following remarks.

In algebraical investigations, it is well known, that the practical application of a general expression, is frequently limited by the conditions which the hypothesis involves; and that, in consequence of a want of attention to this circumstance, some mathematicians of the first eminence have been led to adopt the most paradoxical and absurd conclusions. Without this cautious exercise of the judgment, in the interpretation of the algebraical language, no dexterity in the use of the calculus will be sufficient to preserve us from error. Even in algebra, therefore, there is an application of the intellectual powers perfectly distinct from any process of reasoning; and which is absolutely necessary for conducting us to the truth.

In geometry, we are not liable to adopt the same paradoxical conclusions, as in algebra; because the diagrams, to which our attention is directed, serve as a continual check on our reasoning powers. These diagrams exhibit to our very senses, a variety of relations among the quantities under consideration, which the language of algebra is too general to express; in consequence of which, we are not conscious of any effort of the judgment distinct from a process of reasoning. As every geometrical investigation, however, may be expressed algebraically, it is manifest, that in geometry, as well as in algebra, there is an exercise of the intellectual powers, distinct from the logical process; although, in the former science, it is rendered so easy, by the use of diagrams, as to escape our attention.

The same source of error and of absurdity, which exists in algebra, is to be found, in a much greater degree, in the other branches of knowledge. Abstracting entirely from the ambiguity of language; and supposing also our reasonings to be logically accurate, it would still be necessary for us, from time to time, in all our speculations, to lay aside the use of words, and to have recourse to particular examples, or illustrations, in order to correct and to limit our general conclusions. — To a want of attention to this circumstance, a number of the speculative absurdities which are current in the world, might, I am persuaded, be easily traced.

Besides, however, this source of error, which is in some degree common to all the sciences, there is a great variety of others, from which mathematics are entirely exempted; and which perpetually tend

to lead us astray in our philosophical inquiries. Of these, the most important is, that ambiguity in the signification of words, which renders it so difficult to avoid employing the same expressions in different senses, in the course of the same process of reasoning. This source of mistake, indeed, is apt, in a much greater degree, to affect our conclusions in metaphysics, morals, and politics, than in the different branches of natural philosophy; but, if we except mathematics, there is no science whatever, in which it has not a very sensible influence. In algebra, we may proceed with perfect safety through the longest investigations, without carrying our attention beyond the signs, till we arrive at the last result. But in the other sciences, excepting in those cases in which we have fixed the meaning of all our terms by accurate definitions, and have rendered the use of these terms perfectly familiar to us by very long habit, it is but seldom that we can proceed in this manner without danger of error. In many cases, it is necessary for us to keep up, during the whole of our investigations, a scrupulous and constant attention to the signification of our expressions; and, in most cases, this caution in the use of words, is a much more difficult effort of the mind, than the logical process. But still this furnishes no exception to the general doctrine already delivered; for the attention we find it necessary to give to the import of our words, arises only from the accidental circumstance of their ambiguity, and has no essential connection with that process of the mind, which is properly called reasoning; and which consists in the inference of a conclusion from premises. In

all the sciences, this process of the mind is perfectly analogous to an algebraical operation; or, in other words, (when the meaning of our expressions is once fixed by definitions,) it may be carried on intirely by the use of signs, without attending, during the time of the process, to the things signified.

The conclusion to which the foregoing observations lead, appears to me to be decisive of the question, with respect to the objects of our thoughts when we employ general terms; for if it be granted, that words, even when employed without any reference to their particular signification, form an instrument of thought sufficient for all the purposes of reasoning; the only shadow of an argument in proof of the common doctrine on the subject, (I mean that which is founded on the impossibility of explaining this process of the mind on any other hypothesis,) falls to the ground. Nothing less, surely, than a conviction of this impossibility, could have so long reconciled philosophers to an hypothesis unsupported by any direct evidence; and acknowledged even by its warmest defenders, to involve much difficulty and mystery.

It does not fall within my plan, to enter, in this part of my work, into a particular consideration of the practical consequences which follow from the foregoing doctrine. I cannot, however, help remarking the importance of cultivating, on the one hand, a talent for ready and various illustration; and, on the other, a habit of reasoning by means of general terms. The former talent is necessary, not only for correcting and limiting our general conclusions, but for enabling us to apply our knowledge,

when occasion requires, to its real practical use. The latter serves the double purpose, of preventing our attention from being distracted during the course of our reasonings, by ideas which are foreign to the point in question; and of diverting the attention from those conceptions of particular objects and particular events which might disturb the judgment, by the ideas and feelings which are apt to be associated with them, in consequence of our own casual experience.

This last observation points out to us, also, one principal foundation of the art of the orator. As his object is not so much to inform and to satisfy the understandings of his hearers, as to force their immediate assent; it is frequently of use to him to clothe his reasonings in that specific and figurative language, which may either awaken in their minds associations favourable to his purpose, or may divert their attention from a logical examination of his argument. A process of reasoning so expressed, affords at once an exercise to the judgment, to the imagination, and to the passions; and is apt, even when loose and inconsequential, to impose on the best understandings.

It appears farther, from the remarks which have been made, that the perfection of philosophical language, considered either as an instrument of thought, or as a medium of communication with others, consists in the use of expressions, which, from their generality, have no tendency to awaken the powers of conception and imagination; or, in other words, it consists in its approaching, as nearly as possible, in its nature, to the language of algebra. And hence

the effects which long habits of philosophical speculation have, in weakening, by disuse, those faculties of the mind, which are necessary for the exertions of the poet and the orator; and of gradually forming a style of composition, which they who read merely for amusement, are apt to censure for a want of vivacity and of ornament.

SECTION III.

Remarks on the Opinions of some modern Philosophers on the Subject of the foregoing Section.

After the death of Abelard, through whose abilities and eloquence the sect of Nominalists had enjoyed, for a few years, a very splendid triumph, the system of the Realists began to revive; and it was soon so completely re-established in the schools, as to prevail, with little or no opposition, till the fourteenth century. What the circumstances were, which led philosophers to abandon a doctrine, which seems so strongly to recommend itself by its simplicity, it is not very easy to conceive. Probably the heretical opinions, which had subjected both Abelard and Roscelinus to the censure of the church, might create a prejudice also against their philosophical principles; and probably too, the manner in which these principles were stated and defended, was not the clearest, nor the most satisfactory.* The principal cause, however, I am disposed to think, of the

* The great argument which the Nominalists employed against the existence of universals was; "Entia non sunt multiplicanda "præter necessitatem."

decline of the sect of Nominalists, was their want of some palpable example, by means of which they might illustrate their doctrine. It is by the use which algebraists make of the letters of the alphabet in carrying on their operations, that Leibnitz and Berkeley have been most successful in explaining the use of language as an instrument of thought: and, as in the twelfth century, the algebraical art was entirely unknown, Roscelinus and Abelard must have been reduced to the necessity of conveying their leading idea by general circumlocutions; and must have found considerable difficulty in stating it in a manner satisfactory to themselves: a consideration, which, if it accounts for the slow progress which this doctrine made in the world, places in the more striking light, the genius of those men whose sagacity led them, under so great disadvantages, to approach to a conclusion so just and philosophical in itself, and so opposite to the prevailing opinions of their age.

In the fourteenth century, this sect seems to have been almost completely extinct; their doctrine being equally reprobated by the two great parties which then divided the schools, the followers of Duns Scotus and of Thomas Aquinas. These, although they differed in their manner of explaining the nature of universals, and opposed each other's opinions with much asperity, yet united in rejecting the doctrine of the Nominalists, not only as absurd, but as leading to the most dangerous consequences. At last, William Occam, a native of England, and a scholar of Duns Scotus, revived the ancient controversy: and with equal ability and success vindicated the

long-abandoned philosophy of Roscelinus. From this time the dispute was carried on with great warmth, in the universities of France, of Germany, and of England; more particularly in the two former countries, where the sovereigns were led, by some political views, to interest themselves deeply in the contest; and even to employ the civil power in supporting their favourite opinions. The Emperor Lewis of Bavaria, in return for the assistance which, in his disputes with the Pope *, Occam had given to him by his writings, sided with the Nominalists. Lewis the Eleventh of France, on the other hand, attached himself to the Realists, and made their antagonists the objects of a cruel persecution. †

The Protestant Reformation, at length, involved men of learning in discussions of a more interesting nature; but even the zeal of theological controversy could hardly exceed that with which the Nominalists and Realists had for some time before maintained their respective doctrines. "Clamores primum ad ravim," (says an author who had himself been an eye-witness of these literary disputes,) "hinc improbitas, sannæ, minæ, convitia, dum luc-
"tantur, et uterque alterum tentat prosternere:
"consumtis verbis venitur ad pugnos, ad veram
"lectam ex ficta et simulata. Quin etiam, quæ
"contingunt in palæstra, illic non desunt, colaphi,
"alapæ, consputio, calces, morsus, etiam quæ jam
"supra leges palæstræ, fustes, ferrum, caucii multi,

* Occam, we are told, was accustomed to say to the Emperor: "Tu me defendas gladio, et ego te defendam calamo."
BRUCKER, vol. iii. p. 848.

† MOSHEIM's Ecclesiastical History.

" nonnunquam occisi." * That this account is not exaggerated, we have the testimony of no less an author than Erasmus, who mentions it as a common occurrence: " Eos usque ad pallorem, usque ad " convitia, usque ad sputa, nonnunquam et usque " ad pugnos invicem digladiari, alios ut Nominales, " alios ut Reales, loqui." †

The dispute to which the foregoing observations relate, although for some time after the Reformation, interrupted by theological disquisitions, has been since occasionally revived by different writers; and, singular as it may appear, it has not yet been brought to a conclusion in which all parties are agreed. The names, indeed, of Nominalists and Realists exist no longer; but the point in dispute between these two celebrated sects, coincides precisely with a question which has been agitated in our own times, and which has led to one of the most beautiful speculations of modern philosophy.

Of the advocates who have appeared for the doctrine of the Nominalists, since the revival of letters, the most distinguished are, Hobbes, Berkeley, and Hume. The first has, in various parts of his works, reprobated the hypothesis of the Realists; and has stated the opinions of their antagonists with that

* Ludovicus Vives.

† The Nominalists procured the death of John Huss, who was a Realist; and in their Letter to Lewis King of France, do not pretend to deny that he fell a victim to the resentment of their sect. The Realists, on the other hand, obtained, in the year 1479, the condemnation of John de Wesalia, who was attached to the party of the Nominalists. These contending sects carried their fury so far as to charge each other with " the sin against the Holy Ghost." Mosheim's Ecclesiastical History.

acuteness, simplicity, and precision, which distinguish all his writings. * The second, considering (and, in my opinion, justly) the doctrines of the ancients concerning universals, in support of which so much ingenuity had been employed by the Realists, as the great source of mystery and error in the abstract sciences, was at pains to overthrow it completely, by some very ingenious and original speculations of his own. Mr. Hume's † view of the subject,

* "The universality of one name to many things, hath been "the cause that men think the things themselves are universal; "and so seriously contend, that besides Peter and John, and all "the rest of the men that are, have been, or shall be, in the "world, there is yet something else, that we call Man, viz. Man "in general; deceiving themselves, by taking the universal, or "general appellation, for the thing it signifieth: For if one "should desire the painter to make him the picture of a man, "which is as much as to say, of a man in general; he meaneth "no more, but that the painter should chuse what man he "pleaseth to draw, which must needs be some of them that are, "or have been, or may be: none of which are universal. But "when he would have him to draw the picture of the king, or "any particular person, he limiteth the painter to that one per-"son he chuseth. It is plain, therefore, that there is nothing "universal but names; which are therefore called indefinite, "because we limit them not ourselves, but leave them to be ap-"plied by the hearer: whereas a singular name is limited and "restrained to one of the many things it signifieth; as when "we say, this man, pointing to him, or giving him his proper "name, or by some such other way."

HOBBES's Tripos, chap. v. § 6.

† "A very material question has been started, concerning ab-"stract or general ideas: Whether they be general or particu-"lar in the mind's conception of them? A great philosopher has "disputed the received opinion in this particular; and has as-"serted, that all general ideas are nothing but particular ones "annexed to a certain term, which gives them a more extensive

as he himself acknowledges, does not differ materially from that of Berkeley; whom, by the way, he seems to have regarded as the author of an opinion, of which he was only an expositor and defender; and which, since the days of Roscelinus and Abelard, has been familiarly known in all the universities of Europe. *

Notwithstanding, however, the great merit of these writers, in defending and illustrating the system of the Nominalists, none of them seem to me to have been fully aware of the important consequences to which it leads. The Abbé de Condillac was, I believe, the first (if we except, perhaps, Leibnitz) who perceived that, if this system be true, a talent for reasoning must consist, in a great measure, in a skilful use of language as an instrument of

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"signification, and makes them recal, upon occasion, other individuals, which are similar to them. As I look upon this to be one of the greatest and most valuable discoveries that have been made of late years in the republic of letters, I shall here endeavour to confirm it by some arguments, which, I hope, will put it beyond all doubt and controversy."

Treatise of Human Nature, book i. part i. sect. 7.

* Leibnitz, too, has declared himself a partisan of this sect, in a dissertation "De Stilo Philosophico Marii Nizolii." This Nizolius published a book at Parma, in the year 1553, entitled, "De Veris Principiis et vera Ratione Philosophandi;" in which he opposed several of the doctrines of Aristotle, particularly his opinion concerning universals. An edition of this work, with a Preface and Notes, was published by Leibnitz at Frankfort, in the year 1670. The Preface and Notes are to be found in the fourth volume of his works, by Dutens. (Geneva, 1768.) I have inserted a short extract from the former, in Note (I), at the end of the volume.

thought. The most valuable of his remarks on this subject are contained in a treatise *De l'Art de Penser*, which forms the fourth volume of his "Cours d'Etude."

Dr. Campbell, too, in his Philosophy of Rhetoric, has founded, on the principles of Berkeley and Hume, a very curious and interesting speculation, of which I shall have occasion afterwards to take notice.

The explanation which the doctrines of these writers afford, of the process of the mind in general reasoning, is so simple, and at the same time, in my apprehension, so satisfactory, that, I own, it is with some degree of surprise I have read the attempts which have lately been made to revive the system of the Realists. One of the ablest of these attempts is by Dr. Price; who, in his very valuable Treatise on Morals, has not only employed his ingenuity in support of some of the old tenets of the Platonic school, but has even gone so far as to follow Plato's example, in connecting this speculation about universals, with the sublime questions of natural theology. The observations which he has offered in support of these opinions, I have repeatedly perused with all the attention in my power; but without being able to enter into his views, or even to comprehend fully his meaning. Indeed, I must acknowledge, that it appears to me to afford no slight presumption against the principles on which he proceeds, when I observe, that an author, remarkable, on most occasions, for precision of ideas, and for perspicuity of style, never fails to lose himself in obscurity and mystery, when he enters on these disquisitions.

Dr. Prices's reasonings in proof of the existence of universals, are the more curious, as he acquiesces in some of Dr. Reid's conclusions with respect to the ideal theory of perception. That there are in the mind, images or resemblances of things external, he grants to be impossible; but still he seems to suppose, that in every exertion of thought, there is *something* immediately present to the mind, which is the object of its attention. "When abstract truth is contemplated, is not" (says he) "the very object itself present to the "mind? When millions of intellects contemplate "the equality of every angle of a semicircle to a "right angle, have they not all the same object in "view? Is this object nothing? or is it only an "image, or kind of shadow? These inquiries," he adds, "carry our thoughts high." *

* The whole passage is as follows: "The word *idea* is sometimes "used to signify the immediate object of the mind in "thinking, considered as something in the mind, which repre- "sents the real object, but is different from it. This sense of "an idea is derived from the notion, that when we think of any "external existence, there is something immediately present to "the mind, which it contemplates distinct from the object it- "self, that being at a distance. But what is this? It is bad "language to call it an image in the mind of the object. Shall "we say then, that there is indeed no such thing? But would "not this be the same as to say that, when the mind is em- "ployed in viewing and examining any object, which is either "not present to it, or does not exist, it is employed in viewing "and examining nothing, and therefore does not then think at "all? — When abstract truth is contemplated, is not the very "object itself present to the mind? When millions of intellects "contemplate the equality of every angle in a semicircle to a "right angle, have they not all the same object in view? Is

The difficulty which has appeared so puzzling to this ingenious writer, is, in truth, more apparent than real. In the case of Perception, Imagination, and Memory, it has been already fully shewn, that we have no reason to believe the existence of any thing in the mind distinct from the mind itself; and that, even upon the supposition that the fact were otherwise, our intellectual operations would be just as inexplicable as they are at present. Why then should we suppose, that in our general speculations, there must exist in the mind some object of its thoughts, when it appears that there is no evidence of the existence of any such object, even when the mind is employed about individuals?

Still, however, it may be urged, that, although, in such cases, there should be no object of thought in the mind, there must exist something or other to which its attention is directed. To this difficulty I have no answer to make, but by repeating the fact which I have already endeavoured to establish; that there are only two ways in which we can possibly speculate about classes of objects; the one, by means of a word or generic term; the other, by means of one particular individual of the class which we consider as the representative of the rest; and that these two methods of carrying on our general speculations, are at bottom so much the same, as to authorize us to lay down as a principle, that, without the use of signs, all our thoughts must have related to individuals. When we reason, therefore, concerning classes or genera, the objects

"this object nothing? or is it only an image or kind of shadow? — These inquiries carry our thoughts high."

of our attention are merely signs; or if, in any instance, the generic word should recal some individual, this circumstance is to be regarded only as the consequence of an accidental association, which has rather a tendency to disturb, than to assist us in our reasoning.

Whether it might not have been possible for the Deity to have so formed us, that we might have been capable of reasoning, concerning classes of objects, without the use of signs, I shall not take upon me to determine. But this we may venture to affirm with confidence, that man is not such a being. And, indeed, even if he were, it would not therefore necessarily follow, that there exists any thing in a genus, distinct from the individuals of which it is composed; for we know that the power which we have of thinking of particular objects without the medium of signs, does not in the least depend on their existence or non-existence at the moment we think of them.

It would be vain, however, for us, in inquiries of this nature, to indulge ourselves in speculating about possibilities. It is of more consequence to remark the advantages which we derive from our actual constitution, and which, in the present instance, appear to me to be important and admirable; inasmuch as it fits mankind for an easy interchange of their intellectual acquisitions; by imposing on them the necessity of employing, in their solitary speculations, the same instrument of thought, which forms the established medium of their communications with each other.

In the very slight sketch which I have given of

the controversy between the Nominalists and the Realists about the existence of universals, I have taken no notice of an intermediate sect called Conceptualists; whose distinguishing tenet is said to have been, that the mind has a power of forming general conceptions. * From the indistinctness and inaccuracy of their language on the subject, it is not a very easy matter to ascertain precisely what was their opinion on the point in question; but, on the whole, I am inclined to think, that it amounted to the two following propositions: first, that we have no reason to believe the existence of any essences, or universal ideas, corresponding to general terms; and secondly, that the mind has the power of reasoning concerning *genera*, or classes of individuals, *without the mediation of language*. Indeed, I cannot think of any other hypothesis which it is possible to form on the subject, distinct from those of the two celebrated sects already mentioned. In denying the existence of universals, we know

* "Nominales, deserta paulo Abelardi hypothesi, universalia "in notionibus atque conceptibus mentis ex rebus singularibus "abstractione formatis consistere statuebant, unde conceptuales "dicti sunt." —— BRUCKER, vol. iii. p. 908. (Lips. 1766.)

"Nominalium tres erant familiæ. Aliqui ut Rocelinus, uni- "versalia meras esse voces docuerunt. Alii iterum in solo in- "tellectu posuerunt, atque meros animi conceptus esse autu- "marunt, quos conceptuales aliqui vocant, et a nominalibus dis- "tinguunt quanquam alii etiam confundant. Alii fuerunt, qui "universalia quæ siverunt, non tam in vocibus, quam in sermo- "nibus integris, quod Joh. Sarisberiensis adscribit Pet. Abelardo: "quo quid intelligat ille, mihi non satis liquet." — MORHOF. Polyhistor. Tom. Sec. lib. i. cap. xiii. § 2.

I have taken no notice of the last class of Nominalists here mentioned; as I find myself unable to comprehend their doctrine.

that the Conceptualists agreed with the Nominalists. In what, then, can we suppose that they differed from them, but about the necessity of language as an instrument of thought, in carrying on our general speculations?

With this sect of Conceptualists, Dr. Reid is disposed to rank Mr. Locke; and I agree with him so far as to think, that, if Locke had any decided opinion on the point in dispute, it did not differ materially from what I have endeavoured to express in the two general propositions which I have just now stated. The apparent inconsistencies which occur in that part of his Essay in which the question is discussed, have led subsequent authors to represent his sentiments in different lights; but as these inconsistencies plainly shew, that he was neither satisfied with the system of the Realists, nor with that of the Nominalists; they appear to me to demonstrate that he leaned to the intermediate hypothesis already mentioned, notwithstanding the inaccurate and paradoxical manner in which he has expressed it.*

May I take the liberty of adding, that Dr. Reid's own opinion seems to me also to coincide nearly with that of the Conceptualists; or, at least, to coincide with the two propositions which I have already supposed to contain a summary of their doctrine? The absurdity of the ancient opinion concerning universals, as maintained both by Plato and Aristotle, he has exposed by the clearest and most decisive arguments; not to mention, that, by his own very original and important speculations con-

* See Note [K]

cerning the ideal theory, he has completely destroyed that natural prejudice from which the whole system of universal ideas gradually took rise. If, even in the case of individuals, we have no reason to believe the existence of any object of thought in the mind, distinct from the mind itself, we are at once relieved from all the difficulties in which philosophers have involved themselves, by attempting to explain, in consistency with that ancient hypothesis, the process of the mind in its general speculations.

On the other hand, it is no less clear, from Dr. Reid's criticisms on Berkeley and Hume, that his opinion does not coincide with that of the Nominalists; and that the power which the mind possesses of reasoning concerning classes of objects, appears to him to imply some faculty, of which no notice is taken in the systems of these philosophers.

The long experience I have had of the candour of this excellent author, encourages me to add, that, in stating his opinion on the subject of universals, he has not expressed himself in a manner so completely satisfactory to my mind, as on most other occasions. That language is not an essential instrument of thought in our general reasonings, he has no where positively asserted. At the same time, as he has not affirmed the contrary, and as he has declared himself dissatisfied with the doctrines of Berkeley and Hume, his readers are naturally led to conclude, that this is his real opinion on the subject. His silence on this point is the more to be regretted, as it is the only point about which there can be any reasonable controversy among those who allow his refutation of the ideal hypothesis to be sa-

tisfactory. In consequence of that refutation, the whole dispute between the Realists and the Conceptualists falls at once to the ground; but the dispute between the Conceptualists and the Nominalists (which involves the great question concerning the use of signs in general speculation) remains on the same footing as before.

In order to justify his own expressions concerning universals; and in opposition to the language of Berkeley and Hume, Dr. Reid is at pains to illustrate a distinction between conception and imagination, which, he thinks, has not been sufficiently attended to by philosophers. "An universal," says he, "is not an object of any external sense, and "therefore cannot be imagined; but it may be distinctly conceived. When Mr. Pope says, "The "proper study of mankind is man;" I conceive his "meaning distinctly; although I neither imagine a "black or a white, a crooked or a straight man. I "can conceive a thing that is impossible; but "I cannot distinctly imagine a thing that is impos-"sible. I can conceive a proposition or a demon-"stration, but I cannot imagine either. I can con-"ceive understanding and will, virtue and vice, and "other attributes of the mind; but I cannot ima-"gine them. In like manner, I can distinctly con-"ceive universals; but I cannot imagine them."*

It appears from this passage, that, by conceiving universals, Dr. Reid means nothing more than understanding the meaning of propositions involving general terms. But the observations he has made (admitting them in their full extent) do not in the

* P. 482.

least affect the question about the necessity of signs, to enable us to speculate about such propositions. The vague use which metaphysical writers have made of the word *conception*, (of which I had occasion to take notice in a former chapter,) has contributed in part to embarrass this subject. That we cannot conceive universals in a way at all analogous to that in which we conceive an absent object of sense, is granted on both sides. Why then should we employ the same word *conception*, to express two operations of the mind which are essentially different? When we speak of conceiving or understanding a general proposition, we mean nothing more than that we have a conviction, (founded on our previous use of the words in which it is expressed,) that we have it in our power, at pleasure, to substitute, instead of the general terms, some one of the individuals comprehended under them. When we hear a proposition announced, of which the terms are not familiar to us; we naturally desire to have it exemplified, or illustrated, by means of some particular instance; and when we are once satisfied by such an application, that we have the interpretation of the proposition at all times in our power, we make no scruple to say, that we conceive or understand its meaning; although we should not extend our views beyond the words in which it is announced, or even although no particular exemplification of it should occur to us at the moment. It is in this sense only, that the terms of any general proposition can possibly be understood: and therefore Dr. Reid's argument does not, in the least, invalidate the doctrine of the Nominalists, that, without

the use of language, (under which term I comprehend every species of signs,) we should never have been able to extend our speculations beyond individuals.

That, in many cases, we may safely employ in our reasonings, general terms, the meaning of which we are not even able to interpret in this way, and consequently which are to us wholly insignificant, I had occasion already to demonstrate, in a former part of this section.

SECTION IV.

Continuation of the same Subject. — Inferences with respect to the Use of Language as an Instrument of Thought, and the Errors in Reasoning to which it occasionally gives rise.

In the last Section, I mentioned Dr. Campbell, as an ingenious defender of the system of the Nominalists; and I alluded to a particular application which he has made of their doctrine. The reasonings which I had then in view, are to be found in the seventh chapter of the second book of his Philosophy of Rhetoric; in which chapter he proposes to explain how it happens, "that nonsense so often "escapes being detected, both by the writer and "the reader." The title is somewhat ludicrous in a grave philosophical work; but the disquisition to which it is prefixed, contains many acute and profound remarks on the nature and power of signs, both as a medium of communication, and as an instrument of thought.

Dr. Campbell's speculations with respect to language as an instrument of thought, seem to have

been suggested by the following passage in Mr. Hume's Treatise of Human Nature. "I believe, "every one who examines the situation of his mind "in reasoning, will agree with me, that we do not an- "nex distinct and complete ideas to every term we "make use of; and that in talking of Government, "Church, Negotiation, Conquest, we seldom spread "out in our minds all the simple ideas of which "these complex ones are composed. It is, how- "ever, observable, that notwithstanding this im- "perfection, we may avoid talking nonsense on "these subjects; and may perceive any repugnance "among the ideas, as well as if we had a full com- "prehension of them. Thus if, instead of saying, "that, in war, the weaker have always recourse to "negotiation, we should say, that they have always "recourse to conquest; the custom which we have "acquired, of attributing certain relations to ideas, "still follows the words, and makes us immediately "perceive the absurdity of that proposition."

In the remarks which Dr. Campbell has made on this passage, he has endeavoured to explain in what manner our habits of thinking and speaking, gradually establish in the mind such relations among the words we employ, as enable us to carry on processes of reasoning by means of them, without attending in every instance to their particular signification. With most of his remarks on this subject I perfectly agree; but the illustrations he gives of them, are of too great extent to be introduced here; and I would not wish to run the risk of impairing their perspicuity, by attempting to abridge them. I must therefore refer such of my readers

as wish to prosecute the speculation, to his very ingenious and philosophical treatise.

"In consequence of these circumstances," (says Dr. Campbell,) "it happens that, in matters which "are perfectly familiar to us, we are able to reason "by means of words, without examining, in every "instance, their signification. Almost all the pos- "sible applications of the terms (in other words, "all the acquired relations of the signs) have be- "come customary to us. The consequence is, "that an unusual application of any term is in- "stantly detected; this detection breeds doubt, "and this doubt occasions an immediate recourse "to ideas. The recourse of the mind, when in any "degree puzzled with the signs, to the knowledge "it has of the things signified, is natural, and on "such subjects perfectly easy. And of this re- "course the discovery of the meaning, or of the "unmeaningness of what is said, is the immediate "effect. But in matters that are by no means "familiar, or are treated in an uncommon man- "ner, and in such as are of an abstruse and in- "tricate nature, the case is widely different." The instances in which we are chiefly liable to be imposed on by words without meaning are, (according to Dr. Campbell,) the three following:

First, Where there is an exuberance of metaphor.

Secondly, When the terms most frequently occurring, denote things which are of a complicated nature, and to which the mind is not sufficiently familiarised. Such are the words, Government, Church, State, Constitution, Polity, Power, Com-

merce, Legislature, Jurisdiction, Proportion, Symmetry, Elegance.

Thirdly, When the terms employed are very abstract, and consequently of very extensive signification. * For an illustration of these remarks, I must refer the reader to the ingenious work which I just now quoted.

To the observations of these eminent writers, I shall take the liberty of adding, that we are doubly liable to the mistakes they mention, when we make use of a language which is not perfectly familiar to us. Nothing, indeed, I apprehend, can shew more clearly the use we make of words in reasoning than this, that an observation which, when expressed in our own language, seems trite or frivolous, often acquires the appearance of depth and originality, by being translated into another. For my own part, at least, I am conscious of having been frequently led, in this way, to form an exaggerated idea of the merits of ancient and of foreign authors; and it has happened to me more than

* "The more general any word is in its signification, it is the "more liable to be abused by an improper or unmeaning ap- "plication. A very general term is applicable alike to a mul- "titude of different individuals, a particular term is applicable "but to a few. When the rightful applications of a word are "extremely numerous, they cannot all be so strongly fixed "by habit, but that, for greater security, we must perpetu- "ally recur in our minds from the sign to the notion we have of "the thing signified; and, for the reason aforementioned, it is "in such instances difficult precisely to ascertain this notion. "Thus the latitude of a word, though different from its ambi- "guity, hath often a similar effect." — Philosophy of Rhetoric, vol. ii. p. 122.

once, that a sentence, which seemed at first to contain something highly ingenious and profound, when translated into words familiar to me, appeared obviously to be a trite or a nugatory proposition.

The effect produced by an artificial and inverted style in our own language, is similar to what we experience when we read a composition in a foreign one. The eye is too much dazzled to see distinctly. "Aliud styli genus," (says Bacon,) "totum in eo "est, ut verba sint aculeata, sententiæ concisæ, "oratio denique potius versa quam fusa, quo fit, ut "omnia, per hujusmodi artificium, magis ingeniosa "videantur quam re vera sint. Tale invenitur in "Seneca effusius, in Tacito et Plinio secundo mo- "deratius."

The deranged collocation of the words in Latin composition, aids powerfully the imposition we have now been considering, and renders that language an inconvenient medium of philosophical communication; as well as an inconvenient instrument of accurate thought. Indeed, in all languages in which this latitude in the arrangement of words is admitted, the associations among words must be looser, than where one invariable order is followed; and of consequence, on the principles of Hume and Campbell, the mistakes which are committed in reasonings expressed in such languages, will not be so readily detected.

The errors in reasoning, to which we are exposed in consequence of the use of words as an instrument of thought, will appear the less surprising, when we consider that all the languages which have hitherto

existed in the world, have derived their origin from popular use; and that their application to philosophical purposes, was altogether out of the view of those men who first employed them. Whether it might not be possible to invent a language, which would at once facilitate philosophical communication, and form a more convenient instrument of reasoning and of invention, than those we possess at present, is a question of very difficult discussion; and upon which I shall not presume to offer an opinion. The failure of Wilkins's very ingenious attempt towards a real character, and a philosophical language, is not perhaps decisive against such a project; for, not to mention some radical defects in his plan, the views of that very eminent philosopher do not seem to have extended much farther than to promote and extend the literary intercourse among different nations. Leibnitz, so far as I know, is the only author who has hitherto conceived the possibility of aiding the powers of invention and of reasoning, by the use of a more convenient instrument of thought; but he has no where explained his ideas on this very interesting subject. It is only from a conversation of his with Mr. Boyle and Mr. Oldenburgh, when he was in England in 1673, and from some imperfect hints in different parts of his works*, that we find it had engaged his attention. In the course of this conversation he observed, that Wilkins had mistaken the true end of a real character, which was not merely to enable different nations to correspond easily together, but to assist the rea-

*See Note [L].

son, the invention, and the memory. In his writings, too, he somewhere speaks of an alphabet of human thoughts, which he had been employed in forming, and which, probably, (as Fontenelle has remarked,) had some relation to his universal language. *

The new nomenclature which has been introduced into chymistry, seems to me to furnish a striking illustration of the effect of appropriated and well-defined expressions, in aiding the intellectual powers; and the period is probably not far distant, when similar innovations will be attempted in some of the other sciences.

* " M. Leibnitz avoit conçu le projet d'une langue philosophique et universelle. Wilkins Evêque de Chester, et Dalgarno, y avoient travaillé; mais dès le tems qu'il étoit en Angleterre, il avoit dit à Messieurs Boyle et d'Oldenbourg qu'il ne croyoit pas que ces grands hommes eussent encore frappé au but. Ils pouvoient bien faire que des nations qui ne s'entendoient pas eussent aisément commerce, mais ils n'avoient pas attrappé les véritables caractères réels, qui étoient l'instrument le plus fin dont l'esprit humain se pût servir, et qui devoient extrêmement faciliter et le raisonnement, et la mémoire, et l'invention des choses. Ils devoient ressembler, autant qu'il étoit possible, aux caractères d'algèbre, qui en effet sont très simples, et très expressifs, qui n'ont jamais ni superfluité, ni équivoque, et dont toutes les variétés sont raisonnées. Il a parlé en quelque endroit, d'un alphabet des pensées humaines, qu'il méditoit. Selon toutes les apparences, cet alphabet avoit rapport à sa langue universelle." *Eloge de M.* LEIBNITZ *par M. de* FONTENELLE.

SECTION V.

Of the Purposes to which the Powers of Abstraction and Generalisation are subservient.

It has been already shewn, that, without the use of signs, all our knowledge must necessarily have been limited to individuals, and that we should have been perfectly incapable both of classification and general reasoning. Some authors have maintained, that without the power of generalisation, (which I have endeavoured to shew, means nothing more than the capacity of employing general terms,) it would have been impossible for us to have carried on any species of reasoning whatever. But I cannot help thinking that this opinion is erroneous; or, at least, that it is very imperfectly stated. The truth is, it appears to me to be just in one sense of the word *reasoning*, but false in another; and I even suspect it is false in that sense of the word in which it is most commonly employed. Before, therefore, it is laid down as a general proposition, the meaning we are to annex to this very vague and ambiguous term, should be ascertained with precision.

It has been remarked by several writers, that the expectation which we feel of the continuance of the laws of nature, is not founded upon reasoning; and different theories have of late been proposed to account for its origin. Mr. Hume resolves it into the association of ideas. Dr. Reid, on the other hand, maintains, that it is an original principle of our con-

stitution, which does not admit of any explanation; and which, therefore, is to be ranked among those general and ultimate facts, beyond which philosophy is unable to proceed.* Without this principle of expectation, it would be impossible for us to accommodate our conduct to the established course of nature; and, accordingly, we find that it is a principle coëval with our very existence; and, in some measure, common to man with the lower animals.

* In inquiries of this nature, so far removed from the common course of literary pursuits, it always gives me pleasure to remark a coincidence of opinion among different philosophers; particularly among men of original genius, and who have been educated in different philosophical systems. The following passage, in which M. de Condorcet gives an account of some of the metaphysical opinions of the late Mr. Turgot, approaches very nearly to Dr. Reid's doctrines.

"La mémoire de nos sensations, et la faculté que nous avons "de réfléchir sur ces sensations passées et de les combiner, sont "le seul principe de nos connoissances. La supposition qu'il "existe des loix constantes auxquelles tout les phénomènes ob- "servés sont assujettis de manière à reparoître dans tous les "temps, dans toutes les circonstances, tels qu'ils sont déterminés "par ces loix, est le seul fondement de la certitude de ces con- "noissances.

"Nous avons la conscience d'avoir observé cette constance, et "un sentiment involontaire nous force de croire qu'elle conti- "nuera de subsister. La probabilité qui en resulte, quelque "grande qu'elle soit, n'est pas une certitude. Aucune relation "nécessaire ne lie pour nous le passé à l'avenir, ni la constance "de ce que j'ai vu à celle de ce que j'aurois continué d'observer "si j'étois resté dans des circonstances semblables; mais l'im- "pression qui me porte à regarder comme existant, comme réel "ce qui m'a présenté ce caractère de constance est irrésist- "ible."—*Vie de* TURGOT, partie ii. p. 56.

"Quand un François et un Anglois pensent de même, (says "Voltaire,) il faut bien qu'ils aient raison."

It is an obvious consequence of this doctrine, that, although philosophers be accustomed to state what are commonly called the laws of nature, in the form of general propositions, it is by no means necessary for the practical purposes of life, that we should express them in this manner; or even that we should express them in words at all. The philosopher, for example, may state it as a law of nature, that "fire scorches;" or that, "heavy bodies, when unsupported, fall downwards:" but, long before the use of artificial signs, and even before the dawn of reason, a child learns to act upon both of these suppositions. In doing so, it is influenced merely by the instinctive principle which has now been mentioned, directed in its operation (as is the case with many other instincts) by the experience of the individual. If man, therefore, had been destined for no other purposes, than to acquire such an acquaintance with the course of nature, as is necessary for the preservation of his animal existence; he might have fulfilled all the ends of his being without the use of language.

As we are enabled, by our instinctive anticipation of physical events, to accommodate our conduct to what we foresee is to happen, so we are enabled, in many cases, to increase our power, by employing physical causes as instruments for the accomplishment of our purposes; nay, we can employ a series of such causes, so as to accomplish very remote effects. We can employ the agency of air, to increase the heat of a furnace; the furnace, to render iron malleable; and the iron to all the various purposes of the mechanical arts. Now, it appears to me, that

all this may be conceived and done without the aid of language: and yet, assuredly, to discover a series of means subservient to a particular end; or, in other words, an effort of mechanical invention; implies, according to the common doctrines of philosophers, the exercise of our reasoning powers. In this sense, therefore, of the word reasoning, I am inclined to think, that it is not essentially connected with the faculty of generalisation, or with the use of signs.

It is some confirmation of this conclusion, that savages, whose minds are almost wholly occupied with particulars, and who have neither inclination nor capacity for general speculations, are yet occasionally observed to employ a long train of means for accomplishing a particular purpose. Even something of this kind, but in a very inferior degree, may, I think, be remarked in the other animals; and that they do not carry it farther, is probably not the effect of their want of generalisation, but of the imperfection of some of those faculties which are common to them with our species; particularly of their powers of attention and recollection. The instances which are commonly produced, to prove that they are not destitute of the power of reasoning, are all examples of that species of contrivance which has been mentioned; and are perfectly distinct from those intellectual processes to which the use of signs is essentially subservient. *

* One of the best attested instances which I have met with, of sagacity in the lower animals, is mentioned by M. Bailly, in his *Lettre sur les Animaux*, addressed to M. Le Roy:

"Un de mes amis, homme d'esprit et digne de confiance, m'a "raconté deux faits dont il a été témoin. Il avoit un singe très

Whether that particular species of mechanical contrivance which has now been mentioned, and which consists merely in employing a series of physical causes to accomplish an effect which we cannot produce immediately, should or should not be dignified with the name of reasoning, I shall not now inquire. It is sufficient for my present purpose to remark, that it is essentially different from those intellectual processes to which the use of signs is indispensably ne-

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" intelligent; il s'amusoit à lui donner des noix dont l'animal étoit " très friand; mais il les plaçoit assez loin, pour que retenu par sa " chaîne, le singe ne pût pas les atteindre: après bien des efforts " inutiles qui ne servent qu'à préparer l'invention, le singe, " voyant passer un domestique portant un serviette sous le bras, " se saisit de cette serviette, et s'en servit pour atteindre à la " noix et l'amener jusqu'à lui. La manière de casser la noix " exigea une nouvelle invention; il en vint à bout, en plaçant la " noix à terre, en y faisant tomber de haut une pierre ou un " caillou pour la briser. Vous voyez, Monsieur, que sans avoir " connu, comme Gallilée, les loix de la chûte des corps, le singe " avoit bien remarqué la force que ces corps acquièrent par la " chûte. Ce moyen cependant se trouva en défaut. Un jour " qu'il avoit plu, la terre étoit molle, la noix enfonçoit, et la pierre " n'avoit plus d'action pour la briser. Que fit le singe? Il alla " chercher un tuileau, plaça la noix dessus, et en laissant tom- " ber la pierre il brisa la noix qui n'enfonçoit plus." ——*Discours " et mémoires par l'Auteur de l'Histoire de l'Astronomie.* A Paris, 1790, tome ii. p. 126.

Admitting these facts to be accurately stated, they still leave an essential distinction between man and brutes; for in none of the contrivances here mentioned, is there any thing analogous to those intellectual processes which lead the mind to general conclusions, and which (according to the foregoing doctrine) imply the use of general terms. Those powers, therefore, which enable us to classify objects, and to employ signs as an instrument of thought, are, as far as we can judge, peculiar to the human species.

cessary. At the same time, I am ready to acknowledge, that what I have now said, is not strictly applicable to those more complicated mechanical inventions, in which a variety of powers are made to conspire at once to produce a particular effect. Such contrivances, perhaps, may be found to involve processes of the mind which cannot be carried on without signs. But these questions will fall more properly under our consideration when we enter on the subject of reasoning.

In general, it may be remarked, that, in so far as our thoughts relate merely to individual objects, or to individual events, which we have actually perceived, and of which we retain a distinct remembrance *, we are not under the necessity of employ-

* I have thought it proper to add this limitation of the general proposition; because individual objects, and individual events, which have not fallen under the examination of our senses, cannot possibly be made the subjects of our consideration, but by means of language. The manner in which we think of such objects and events, is accurately described in the following passage of Wollaston; however unphilosophical the conclusion may be which he deduces from his reasoning.

"A man is not known ever the more to posterity, because "his name is transmitted to them; he doth not live, because his "name does. When it is said, Julius Cæsar subdued Gaul, "beat Pompey, changed the Roman commonwealth into a mo-"narchy, &c. it is the same thing as to say the conqueror of "Pompey was Cæsar; that is, Cæsar, and the conqueror of "Pompey, are the same thing; and Cæsar is as much known "by the one distinction as the other. The amount then is only "this: that the conqueror of Pompey conquered Pompey; or "somebody conquered Pompey; or rather, since Pompey is as "little known now as Cæsar, somebody conquered somebody. "Such a poor business is this boasted immortality; and such as "has been here described, is the thing called glory among us!"

Religion of NAT. DEL. p. 117.

ing words. It frequently, however, happens, that when the subjects of our consideration are particular, our reasoning with respect to them may involve very general notions; and, in such cases, although we may conceive, without the use of words, the things about which we reason, yet we must necessarily have recourse to language in carrying on our speculations concerning them. If the *subjects* of our reasoning be general, (under which description I include all our reasonings, whether more or less comprehensive, which do not relate merely to individuals,) words are the sole objects about which our thoughts are employed. According as these words are comprehensive or limited in their signification, the conclusions we form will be more or less general; but this accidental circumstance does not in the least affect the nature of the intellectual process; so that it may be laid down as a proposition which holds without any exception, that, in every case in which we extend our speculations beyond individuals, language is not only an useful auxiliary, but is the sole instrument by which they are carried on.

These remarks naturally lead me to take notice of what forms the characteristical distinction between the speculations of the philosopher and of the vulgar. It is not, that the former is accustomed to carry on his processes of reasoning to a greater extent than the latter; but that the conclusions he is accustomed to form, are far more comprehensive, in consequence of the habitual employment of more comprehensive terms. Among the most unenlightened of mankind, we often meet with individuals who possess the reasoning faculty in a very eminent

degree; but as this faculty is employed merely about particulars, it never can conduct them to general truths; and, of consequence, whether their pursuits in life lead them to speculation or to action, it can only fit them for distinguishing themselves in some very limited and subordinate sphere. The philosopher, whose mind has been familiarised by education, and by his own reflexions, to the correct use of more comprehensive terms, is enabled, without perhaps a greater degree of intellectual exertion than is necessary for managing the details of ordinary business, to arrive at general theorems; which, when illustrated to the lower classes of men, in their particular applications, seem to indicate a fertility of invention, little short of supernatural. *

The analogy of the algebraical art may be of use in illustrating these observations. The difference, in fact, between the investigations we carry on by its assistance, and other processes of reasoning, is more inconsiderable than is commonly imagined; and, if I am not mistaken, amounts only to this,

* "General reasonings seem intricate, merely because they "are general; nor is it easy for the bulk of mankind to distin- "guish, in a great number of particulars, that common "circumstance in which they all agree, or to extract it, pure "and unmixt, from the other superfluous circumstances. Every "judgment or conclusion with them is particular. They cannot "enlarge their view to those universal propositions, which com- "prehend under them an infinite number of individuals, and in- "clude a whole science in a single theorem. Their eye is con- "founded with such an extensive prospect, and the conclusions "derived from it, even though clearly expressed, seem intricate "and obscure."

HUME's *Political Discourses*.

that the former are expressed in an appropriated language, with which we are not accustomed to associate particular notions. Hence they exhibit the efficacy of signs as an instrument of thought in a more distinct and palpable manner, than the speculations we carry on by words, which are continually awakening the power of Conception.

When the celebrated Vieta shewed algebraists that, by substituting in their investigations letters of the alphabet, instead of known quantities, they might render the solution of every problem subservient to the discovery of a general truth, he did not increase the difficulty of algebraical reasonings: he only enlarged the signification of the terms of which they were expressed. And if, in teaching that science, it is found expedient to accustom students to solve problems by means of the particular numbers which are given, before they are made acquainted with literal or specious arithmetic, it is not because the former processes are less intricate than the latter, but because their scope and utility are more obvious, and because it is more easy to illustrate, by examples than by words, the difference between a particular conclusion and a general theorem.

The difference between the intellectual processes of the vulgar and of the philosopher, is perfectly analogous to that between the two states of the algebraical art before and after the time of Vieta; the general terms which are used in the various sciences, giving to those who can employ them with correctness and dexterity, the same sort of advantage over the uncultivated sagacity of the bulk of

mankind, which the expert algebraist possesses over the arithmetical accomptant.

If the foregoing doctrine be admitted as just, it exhibits a view of the utility of language, which appears to me to be peculiarly striking and beautiful; as it shews that the same faculties which, without the use of signs, must necessarily have been limited to the consideration of individual objects and particular events, are, by means of signs, fitted to embrace, without effort, those comprehensive theorems, to the discovery of which, in detail, the united efforts of the whole human race would have been unequal. The advantage our animal strength acquires by the use of mechanical engines, exhibits but a faint image of that increase of our intellectual capacity which we owe to language. — It is this increase of our natural powers of comprehension, which seems to be the principal foundation of the pleasure we receive from the discovery of general theorems. Such a discovery gives us at once the command of an infinite variety of particular truths, and communicates to the mind a sentiment of its own power, not unlike to what we feel when we contemplate the magnitude of those physical effects, of which we have acquired the command by our mechanical contrivances.

It may perhaps appear, at first, to be a farther consequence of the principles I have been endeavouring to establish, that the difficulty of philosophical discoveries is much less than is commonly imagined; but the truth is, it only follows from them, that this difficulty is of a different nature from what we are apt to suppose, on a superficial

view of the subject. To employ, with skill, the very delicate instrument which nature has made essentially subservient to general reasoning, and to guard against the errors which result from an injudicious use of it, require an uncommon capacity of patient attention, and a cautious circumspection in conducting our various intellectual processes, which can only be acquired by early habits of philosophical reflexion. To assist and direct us in making this acquisition ought to form the most important branch of a rational logic; a science of far more extensive utility, and of which the principles lie much deeper in the philosophy of the human mind, than the trifling art which is commonly dignified with that name. The branch in particular to which the foregoing observations more immediately relate, must for ever remain in its infancy, till a most difficult and important desideratum in the history of the mind is supplied, by an explanation of the gradual steps by which it acquires the use of the various classes of words which compose the language of a cultivated and enlightened people. Of some of the errors of reasoning to which we are exposed by an incautious use of words, I took notice in the preceding Section; and I shall have occasion afterwards to treat the same subject more in detail in a subsequent part of my work.

SECTION VI.

Of the Errors to which we are liable in Speculation, and in the conduct of Affairs, in consequence of a rash Application of general Principles.

It appears sufficiently from the reasonings which I offered in the preceding Section, how important are the advantages which the philosopher acquires, by quitting the study of particulars, and directing his attention to general principles. I flatter myself it appears farther, from the same reasonings, that it is in consequence of the use of language alone that the human mind is rendered capable of these comprehensive speculations.

In order, however, to proceed with safety in the use of general principles, much caution and address are necessary, both in establishing their truth, and in applying them to practice. Without a proper attention to the circumstances by which their application to particular cases must be modified, they will be a perpetual source of mistake, and of disappointment, in the conduct of affairs, however rigidly just they may be in themselves, and however accurately we may reason from them. If our general principles happen to be false, they will involve us in errors, not only of conduct but of speculation; and our errors will be the more numerous, the more comprehensive the principles are on which we proceed.

To illustrate these observations fully, would lead to a minuteness of disquisition inconsistent with my general plan; and I shall therefore, at present, confine myself to such remarks as appear to be of most essential importance.

And, in the first place, it is evidently impossible to establish solid general principles, without the previous study of particulars: in other words, it is necessary to begin with the examination of individual objects, and individual events; in order to lay a ground-work for accurate classification, and for a just investigation of the laws of nature. It is in this way only that we can expect to arrive at general principles, which may be safely relied on, as guides to the knowledge of particular truths: and unless our principles admit of such a practical application, however beautiful they may appear to be in theory, they are of far less value than the limited acquisitions of the vulgar. The truth of these remarks is now so universally admitted, and is indeed so obvious in itself, that it would be superfluous to multiply words in supporting them; and I should scarcely have thought of stating them in this Chapter, if some of the most celebrated philosophers of antiquity had not been led to dispute them, in consequence of the mistaken opinions which they entertained concerning the nature of universals. Forgetting that *genera* and *species* are mere arbitrary creations which the human mind forms, by withdrawing the attention from the distinguishing qualities of objects, and giving a common name to their resembling qualities, they conceive universals to be real existences, or (as they

expressed it) to be the essences of individuals; and flattered themselves with the belief, that by directing their attention to these essences in the first instance, they might be enabled to penetrate the secrets of the universe, without submitting to the study of nature in detail. These errors, which were common to the Platonists and the Peripatetics, and which both of them seem to have adopted from the Pythagorean school, contributed, perhaps more than any thing else, to retard the progress of the ancients in physical knowledge. The late learned Mr. Harris is almost the only author of the present age, who has ventured to defend this plan of philosophising, in opposition to that which has been so successfully followed by the disciples of lord Bacon.

"The Platonists," says he, "considering sci-
"ence as something ascertained, definite, and
"steady, would admit nothing to be its object
"which was vague, indefinite, and passing. For
"this reason they excluded all individuals or ob-
"jects of sense, and (as Ammonius expresses it)
"raised themselves in their contemplations from
"beings particular to beings universal, and which,
"from their own nature, were eternal and defi-
"nite." — "Consonant to this was the advice of
"Plato, with respect to the progress of our specu-
"lations and inquiries, to descend from those
"higher genera, which include many subordinate
"species, down to the lowest rank of species, those
"which include only individuals. But here it
"was his opinion, that our inquiries should stop,
"and, as to individuals, let them wholly alone; be-

"cause of these there could not possibly be any "science." *

"Such," continues this author, "was the me-"thod of ancient philosophy. The fashion, at pre-"sent, appears to be somewhat altered, and the "business of philosophers to be little else, than the "collecting from every quarter, into voluminous "records, an infinite number of sensible, particular, "and unconnected facts, the chief effect of which "is to excite our admiration."—In another part of his works the same author observes, that "the "mind, truly wise, quitting the study of particu-"lars, as knowing their multitude to be infinite and "incomprehensible, turns its intellectual eye to "what is general and comprehensive, and through "generals learns to see, and recognise whatever "exists." †

If we abstract from these obvious errors of the ancient philosophers, with respect to the proper order to be observed in our inquiries, and only suppose them to end where the Platonists said that they should begin, the magnificent encomiums they bestowed on the utility of those comprehensive truths which form the object of science (making allowance for the obscure and mysterious terms in which they expressed them) can scarcely be regarded as extravagant. It is probable that from a few accidental instances of successful investigation, they had been struck with the wonderful effect of general principles in increasing the intellectual

* HARRIS's Three Treatises, pages 341, 342.

† Ibid. page 227.

power of the human mind; and, misled by that impatience in the study of particulars which is so often connected with the consciousness of superior ability, they laboured to persuade themselves, that, by a life devoted to abstract meditation, such principles might be rendered as immediate objects of intellectual perception, as the individuals which compose the material world are of our external senses. By connecting this opinion with their other doctrines concerning universals, they were unfortunately enabled to exhibit it in so mysterious a form, as not only to impose on themselves, but to perplex the understandings of all the learned in Europe, for a long succession of ages.

The conclusion to which we are led by the foregoing observations is, that the foundation of all human knowledge must be laid in the examination of particular objects and particular facts; and that it is only as far as our general principles are resolvable into these primary elements, that they possess either truth or utility. It must not, however, be understood to be implied in this conclusion, that all our knowledge must ultimately rest on our own proper experience. If this were the case, the progress of science, and the progress of human improvement, must have been wonderfully retarded; for, if it had been necessary for each individual to form a classification of objects, in consequence of observations and abstractions of his own, and to infer from the actual examination of particular facts, the general truths on which his conduct proceeds; human affairs would at this day remain nearly in the same state to which they were brought by the

experience of the first generation. In fact, this is very nearly the situation of the species in all those parts of the world, in which the existence of the race depends on the separate efforts which each individual makes, in procuring for himself the necessaries of life; and in which, of consequence, the habits and acquirements of each individual must be the result of his own personal experience. In a cultivated society, one of the first acquisitions which children make, is the use of language; by which means they are familiarised, from their earliest years, to the consideration of classes of objects, and of general truths; and before that time of life at which the savage is possessed of the knowledge necessary for his own preservation, are enabled to appropriate to themselves the accumulated discoveries of ages.

Notwithstanding, however, the stationary condition in which the race must, of necessity, continue, prior to the separation of arts and professions; the natural disposition of the mind to ascend from particular truths to general conclusions, could not fail to lead individuals, even in the rudest state of society, to collect the results of their experience, for their own instruction and that of others. But, without the use of general terms, the only possible way of communicating such conclusions, would be by means of some particular example, of which the general application was striking and obvious. In other words, the wisdom of such ages will necessarily be expressed in the form of fables or parables, or in the still simpler form of proverbial instances; and not in the scientific form of general maxims.

In this way, undoubtedly, much useful instruction, both of a prudential and moral kind, might be conveyed: at the same time, it is obvious, that, while general truths continue to be expressed merely by particular exemplifications, they would afford little or no opportunity to one generation to improve on the speculations of another; as no effort of the understanding could combine them together, or employ them as premises, in order to obtain other conclusions more remote and comprehensive. For this purpose, it is absolutely necessary that the scope or moral of the fable should be separated entirely from its accessary circumstances, and stated in the form of a general proposition.

From what has now been said, it appears, how much the progress of human reason, which necessarily accompanies the progress of society, is owing to the introduction of general terms, and to the use of general propositions. In consequence of the gradual improvements which take place in language as an instrument of thought, the classifications both of things and facts with which the infant faculties of each successive race are conversant, are more just and more comprehensive than those of their predecessors: the discoveries which, in one age, were confined to the studious and enlightened few, becoming in the next, the established creed of the learned; and in the third, forming part of the elementary principles of education. Indeed, among those, who enjoy the advantages of early instruction, some of the most remote and wonderful conclusions of the human intellect, are, even in infancy, as completely familiarised to the mind, as the most

obvious phenomena which the material world exhibits to their senses.

If these remarks be just, they open an unbounded prospect of intellectual improvement to future ages; as they point out a provision made by nature to facilitate and abridge, more and more, the process of study, in proportion as the truths to be acquired increase in number. Nor is this prospect derived from theory alone. It is encouraged by the past history of all the sciences; in a more particular manner, by that of mathematics and physics, in which the state of discovery, and the prevailing methods of instruction, may, at all times, be easily compared together. In this last observation I have been anticipated by a late eminent mathematician, whose eloquent and philosophical statement of the argument cannot fail to carry conviction to those, who are qualified to judge of the facts on which his conclusion is founded:

"To such of my readers as may be slow in ad-
"mitting the possibility of this progressive improve-
"ment in the human race, allow me to state, as an
"example, the history of that science in which the
"advances of discovery are the most certain, and
"in which they may be measured with the greatest
"precision. Those elementary truths of geometry
"and of astronomy, which, in India and Egypt,
"formed an occult science, upon which an ambitious
"priesthood founded its influence, were become, in
"the times of Archimedes and Hipparchus, the
"subjects of common education in the public
"schools of Greece. In the last century, a few
"years of study were sufficient for comprehending

" all that Archimedes and Hipparchus knew; and,
" at present, two years employed under an able
" teacher, carry the student beyond those conclu-
" sions, which limited the inquiries of Leibnitz and
" of Newton. Let any person reflect on these facts:
" let him follow the immense chain which connects
" the inquiries of Euler with those of a Priest of
" Memphis; let him observe, at each epoch, how
" genius outstrips the present age, and how it is
" overtaken by mediocrity in the next; he will per-
" ceive, that nature has furnished us with the means
" of abridging and facilitating our intellectual la-
" bour, and that there is no reason for apprehend-
" ing that such simplifications can ever have an end.
" He will perceive, that at the moment when a
" multitude of particular solutions, and of insulated
" facts, begin to distract the attention, and to over-
" charge the memory, the former gradually lose
" themselves in one general method, and the latter
" unite in one general law; and that these gene-
" ralisations continually succeeding one to another,
" like the successive multiplications of a number
" by itself, have no other limit, than that infinity
" which the human faculties are unable to com-
" prehend." *

* See Note [M].

SECTION VII.

Continuation of the same Subject.— Differences in the Intellectual Characters of Individuals, arising from their different Habits of Abstraction and Generalisation.

In mentioning as one of the principal effects of civilisation, its tendency to familiarise the mind to general terms and to general propositions, I did not mean to say, that this influence extends equally to all the classes of men in society. On the contrary, it is evidently confined, in a great measure, to those who receive a liberal education; while the minds of the lower orders, like those of savages, are so habitually occupied about particular objects and particular events, that, although they are sometimes led, from imitation, to employ general expressions, the use which they make of them is much more the result of memory than judgment; and it is but seldom that they are able to comprehend fully, any process of reasoning in which they are involved.

It is hardly necessary for me to remark, that this observation, with respect to the incapacity of the vulgar for general speculations, (like all observations of a similar nature,) must be received with some restrictions. In such a state of society as that in which we live, there is hardly any individual to be found to whom some general terms, and some general truths, are not perfectly familiar; and, therefore, the foregoing conclusions are to be considered

as descriptive of those habits of thought alone, which are most prevalent in their mind. To abridge the labour of reasoning, and of memory, by directing the attention to general principles, instead of particular truths, is the professed aim of all philosophy; and according as individuals have more or less of the philosophic spirit, their habitual speculations (whatever the nature of their pursuits may be) will relate to the former, or to the latter, of these objects.

There are, therefore, among the men who are accustomed to the exercise of their intellectual powers, two classes, whose habits of thought are remarkably distinguished from each other; the one class comprehending what we commonly call men of business, or, more properly, men of detail; the other, men of abstraction; or, in other words, philosophers.

The advantages which, in certain respects, the latter of these possess over the former, have been already pointed out; but it must not be supposed, that these advantages are always purchased without some inconvenience. As the solidity of our general principles depends on the accuracy of the particular observations into which they are ultimately resolvable, so their utility is to be estimated by the practical applications of which they admit: and it unfortunately happens, that the same turn of mind which is favourable to philosophical pursuits, unless it be kept under proper regulation, is extremely apt to disqualify us for applying our knowledge to use, in the exercise of the arts, and in the conduct of affairs.

In order to perceive the truth of these remarks, it is almost sufficient to recollect, that as classification, and, of consequence, general reasoning, presuppose the exercise of abstraction; a natural disposition to indulge in them, cannot fail to lead the mind to overlook the specific differences of things, in attending to their common qualities. To succeed, however, in practice, a familiar and circumstantial acquaintance with the particular objects which fall under our observation, is indispensably necessary.

But, farther: As all general principles are founded on classifications which imply the exercise of abstraction; it is necessary to regard them, in their practical applications, merely as approximations to the truth; the defects of which, must be supplied by habits acquired by personal experience. In considering, for example, the theory of the mechanical powers; it is usual to simplify the objects of our conception, by abstracting from friction, and from the weight of the different parts of which they are composed. Levers are considered as mathematical lines, perfectly inflexible; and ropes as mathematical lines, perfectly flexible; — and by means of these, and similar abstractions, a subject, which is in itself extremely complicated, is brought within the reach of elementary geometry. In the theory of politics, we find it necessary to abstract from many of the peculiarities which distinguish different forms of government from each other, and to reduce them to certain general classes, according to their prevailing tendency. Although all the governments we have ever seen, have had more or less of mixture in their composition, we reason concerning pure

monarchies, pure aristocracies, and pure democracies, as if there really existed political establishments corresponding to our definitions. Without such a classification, it would be impossible for us to fix our attention, amidst the multiplicity of particulars which the subject presents to us, or to arrive at any general principles, which might serve to guide our enquiries in comparing different institutions together.

It is for a similar reason, that the speculative farmer reduces the infinite variety of soils to a few general descriptions; the physician, the infinite variety of bodily constitutions to a few temperaments; and the moralist, the infinite variety of human characters to a few of the ruling principles of action.

Notwithstanding, however, the obvious advantages we derive from these classifications, and the general conclusions to which they lead; it is evidently impossible, that principles, which derived their origin from efforts of abstraction, should apply literally to practice; or, indeed, that they should afford us any considerable assistance in conduct, without a certain degree of practical and experimental skill. Hence it is, that the mere theorist so frequently exposes himself, in real life, to the ridicule of men whom he despises; and in the general estimation of the world, falls below the level of the common drudges in business and the arts. The walk, indeed, of these unenlightened practitioners, must necessarily be limited by their accidental opportunities of experience; but, so far as they go, they operate with facility and success; while the merely speculative philosopher, although

possessed of principles which enable him to approximate to the truth, in an infinite variety of untried cases, and although he sees, with pity, the narrow views of the multitude, and the ludicrous pretensions with which they frequently oppose their trifling successes to his theoretical speculations, finds himself perfectly at a loss, when he is called upon, by the simplest occurrences of ordinary life, to carry his principles into execution. Hence the origin of that maxim, "which" (as Mr. Hume remarks) "has been so industriously propagated by "the dunces of every age, that a man of genius is "unfit for business."

In what consists practical or experimental skill, it is not easy to explain completely; but, among other things, it obviously implies, a talent for minute and comprehensive and rapid observation; a memory, at once attentive and ready; in order to present to us accurately, and without reflection, our theoretical knowledge: a presence of mind, not to be disconcerted by unexpected occurrences; and, in some cases, an uncommon degree of perfection in the external senses, and in the mechanical capacities of the body. All these elements of practical skill, it is obvious, are to be acquired only by habits of active exertion, and by a familiar acquaintance with real occurrences; for, as all the practical principles of our nature, both intellectual and animal, have a reference to particulars, and not to generals, so it is in the active scenes of life alone, and amidst the details of business, that they can be cultivated and improved.

The remarks, which have been already made, are

sufficient to illustrate the impossibility of acquiring a talent for business, or for any of the practical arts of life, without actual experience. They shew also, that mere experience, without theory, may qualify a man, in certain cases, for distinguishing himself in both. It is not, however, to be imagined, that in this way individuals are to be formed for the uncommon, or for the important situations of society, or even for enriching the arts by new inventions; for as their address and dexterity are founded entirely on imitation, or derived from the lessons which experience has suggested to them, they cannot possibly extend to new combinations of circumstances. Mere experience, therefore, can, at best, prepare the mind for the subordinate departments of life; for conducting the established routine of business, or for a servile repetition in the arts of common operations.

In the character of Mr. George Grenville, which Mr. Burke introduced in his celebrated Speech on American Taxation, a lively picture is drawn of the insufficiency of mere experience to qualify a man for new and untried situations in the administration of government. The observations he makes on this subject, are expressed with his usual beauty and felicity of language; and are of so general a nature, that, with some trifling alterations, they may be extended to all the practical pursuits of life.

"Mr. Grenville was bred to the law, which is, "in my opinion, one of the first and noblest of "human sciences; a science which does more to "quicken and invigorate the understanding, than

" all the other kinds of learning put together; but " it is not apt, except in persons very happily born, " to open and to liberalise the mind exactly in the " same proportion. Passing from that study, he did " not go very largely into the world, but plunged " into business; I mean, into the business of " office, and the limited and fixed methods and " forms established there. Much knowledge is to " be had, undoubtedly, in that line; and there is no " knowledge which is not valuable. But it may be " truly said, that men too much conversant in " office, are rarely minds of remarkable enlarge- " ment. Their habits of office are apt to give them " a turn to think the substance of business not to " be much more important, than the forms in " which it is conducted. These forms are adapted " to ordinary occasions; and, therefore, persons " who are nurtured in office, do admirably well, " as long as things go on in their common order; " but when the high roads are broken up, and the " waters out, when a new and troubled scene is " opened, and the file affords no precedent, then it " is that a greater knowledge of mankind, and a " far more extensive comprehension of things, is " requisite, than ever office gave, or than office can " ever give."

Nor is it in new combinations of circumstances alone, that general principles assist us in the conduct of affairs; they render the application of our practical skill more unerring, and more perfect. For as general principles limit the utility of practical skill to supply the imperfections of theory, they diminish the number of cases in which this

skill is to be employed; and thus, at once, facilitate its improvement, wherever it is requisite; and lessen the errors to which it is liable, by contracting the field within which it is possible to commit them.

It would appear then, that there are two opposite extremes into which men are apt to fall, in preparing themselves for the duties of active life. The one arises from habits of abstraction and generalisation carried to an excess; the other from a minute, an exclusive, and an unenlightened attention to the objects and events which happen to fall under their actual experience.

In a perfect system of education, care should be taken to guard against both extremes, and to unite habits of abstraction with habits of business, in such a manner as to enable men to consider things, either in general, or in detail, as the occasion may require. Whichever of these habits may happen to gain an undue ascendant over the mind, it will necessarily produce a character limited in its powers, and fitted only for particular exertions. Hence some of the apparent inconsistencies which we may frequently remark in the intellectual capacities of the same person. One man, from an early indulgence in abstract speculation, possesses a knowledge of general principles, and a talent for general reasoning, united with a fluency and eloquence in the use of general terms, which seem, to the vulgar, to announce abilities fitted for any given situation in life: while, in the conduct of the simplest affairs, he exhibits every mark of irresolution and incapacity. Another, not only acts with propriety,

and skill, in circumstances which require a minute attention to details, but possesses an acuteness of reasoning, and a facility of expression on all subjects, in which nothing but what is particular is involved; while, on general topics, he is perfectly unable either to reason, or to judge. It is this last turn of mind, which I think we have, in most instances, in view, when we speak of good sense, or common sense, in opposition to science and philosophy. Both philosophy and good sense, imply the exercise of our reasoning powers; and they differ from each other only, according as these powers are applied to particulars or to generals. It is on good sense (in the acceptation in which I have now explained the term) that the success of men in the inferior walks of life chiefly depends; but, that it does not always indicate a capacity for abstract science, or for general speculation, or for able conduct in situations which require comprehensive views, is matter even of vulgar remark.

Although, however, each of these defects has a tendency to limit the utility of the individuals in whom it is to be found, to certain stations in society; no comparison can be made, in point of original value, between the intellectual capacities of the two classes of men to which they characteristically belong. The one is the defect of a vigorous, an ambitious, and a comprehensive genius, improperly directed; the other, of an understanding, minute and circumscribed in its views, timid in its exertions, and formed for servile imitation. Nor is the former defect, (however difficult it may be to remove it when confirmed by long habit,)

by any means so incurable as the latter; for it arises, not from original constitution, but from some fault in early education; while every tendency to the opposite extreme is more or less characteristical of a mind, useful, indeed, in a high degree, when confined to its proper sphere, but destined, by the hand that formed it, to borrow its lights from another.

As an additional proof of the natural superiority which men of general views possess over the common drudges in business, it may be farther observed that the habits of inattention incident to the former arise in part from the little interest which they take in particular objects and particular occurrences, and are not wholly to be ascribed to an incapacity of attention. When the mind has been long accustomed to the consideration of classes of objects and of comprehensive theorems, it cannot, without some degree of effort, descend to that humble walk of experience, or of action, in which the meanest of mankind are on a level with the greatest. In important situations, accordingly, men of the most general views, are found not to be inferior to the vulgar in their attention to details; because the objects and occurrences which such situations present, rouse their passions, and interest their curiosity, from the magnitude of the consequences to which they lead.

When theoretical knowledge and practical skill are happily combined in the same person, the intellectual power of man appears in its full perfection; and fits him equally to conduct, with a masterly hand, the details of ordinary business, and to con-

tend successfully with the untried difficulties of new and hazardous situations. In conducting the former, mere experience may frequently be a sufficient guide, but experience and speculation must be combined together to prepare us for the latter. "Expert men," says Lord Bacon, "can execute "and judge of particulars one by one; but the ge- "ral counsels, and the plots, and the marshalling "of affairs, come best from those that are learned."

SECTION VIII.

*Continuation of the same Subject. — Use and Abuse of general Principles in Politics.**

The foregoing remarks, on the dangers to be apprehended from a rash application of general principles, hold equally with respect to most of the practical arts. Among these, however, there is one of far superior dignity to the rest; which, partly on

* The events which have happened since the publication of the first edition of this volume in 1792, might have enabled me to confirm many of the observations in this Section, by an appeal to facts still fresh in the recollection of my Readers; and in one or two instances, by slight verbal corrections to guard against the possibility of uncandid misinterpretation: but, for various reasons, which it is unnecessary to state at present, I feel it to be a duty which I owe to myself, to send the whole discussion again to the press in its original form. That the doctrine it inculcates is favourable to the good order and tranquillity of society, cannot be disputed; and, as far as I myself am personally interested, I have no wish to vitiate the record which it exhibits of my opinion.

On some points which are touched upon very slightly here, I have explained myself more fully, in the fourth Section of my Biographical Account of Mr. Smith, read before the Royal Society of Edinburgh in 1793, and published in the third Volume of their Transactions. — (*Second Edition*, 1802.)

account of its importance, and partly on account of some peculiarities in its nature, seems to be entitled to a more particular consideration. The art I allude to, is that of Legislation; an art which differs from all others in some very essential respects, and to which, the reasonings in the last Section must be applied with many restrictions.

Before proceeding farther, it is necessary for me to premise, that it is chiefly in compliance with common language and common prejudices, that I am sometimes led, in the following observations, to contrast theory with experience. In the proper sense of the word Theory, it is so far from standing in opposition to Experience, that it implies a knowledge of principles, of which the most extensive experience alone could put us in possession. Prior to the time of Lord Bacon, indeed, an acquaintance with facts was not considered as essential to the formation of theories; and from these ages, has descended to us, an indiscriminate prejudice against general principles, even in those cases in which they have been fairly obtained in the way of induction.

But not to dispute about words: there are plainly two sets of political reasoners; one of which consider the actual institutions of mankind as the only safe foundation for our conclusions, and think every plan of legislation chimerical, which is not copied from one which has already been realised; while the other apprehend that, in many cases, we may reason safely *a priori* from the known principles of human nature combined with the particular circumstances of the times.

The former are commonly understood as contending for experience in opposition to theory; the lattter are accused of trusting to theory unsupported by experience; but it ought to be remembered, that the political theorist, if he proceeds cautiously and philosophically, founds his conclusions ultimately on experience, no less than the political empiric; — as the astronomer, who predicts an eclipse from his knowledge of the principles of the science, rests his expectation of the event, on facts which have been previously ascertained by observation, no less than if he inferred it, without any reasoning, from his knowledge of a cycle.

There is, indeed, a certain degree of practical skill which habits of business alone can give, and without which the most enlightened politician must always appear to disadvantage when he attempts to carry his plans into execution. And as this skill is often (in consequence of the ambiguity of language) denoted by the word Experience; while it is seldom possessed by those men, who have most carefully studied the theory of legislation; it has been very generally concluded, that politics is merely a matter of routine, in which philosophy is rather an obstacle to success. The statesman, who has been formed among official details, is compared to the practical engineer; the speculative legislator, to the theoretical mechanician who has passed his life among books and diagrams. — In order to ascertain how far this opinion is just, it may be of use to compare the art of legislation with those practical applications of mechanical

principles, by which the opposers of political theories have so often endeavoured to illustrate their reasonings.

I. In the first place, then, it may be remarked, that the errors to which we are liable, in the use of general mechanical principles, are owing, in most instances, to the effect which habits of abstraction are apt to have, in withdrawing the attention from those applications of our knowledge, by which alone we can learn to correct the imperfections of theory. Such errors, therefore, are, in a peculiar degree, incident to men who have been led by natural taste, or by early habits, to prefer the speculations of the closet, to the bustle of active life, and to the fatigue of minute and circumstantial observation.

In politics, too, one species of principles is often misapplied from an inattention to circumstances; those which are deduced from a few examples of particular governments, and which are occasionally quoted as universal political axioms, which every wise legislator ought to assume as the ground-work of his reasonings. But this abuse of general principles should by no means be ascribed, like the absurdities of the speculative mechanician, to over-refinement, and the love of theory; for it arises from weaknesses, which philosophy alone can remedy; an unenlightened veneration for maxims which are supposed to have the sanction of time in their favour, and a passive acquiescence in received opinions.

There is another class of principles, from which political conclusions have sometimes been deduced; and which, notwithstanding the common prejudice

against them, are a much surer foundation for our reasonings: I allude, at present, to those principles which we obtain from an examination of the human constitution, and of the general laws which regulate the course of human affairs; principles, which are certainly the result of a much more extensive induction, than any of the inferences that can be drawn from the history of actual establishments.

In applying, indeed, such principles to practice, it is necessary (as well as in mechanics) to pay attention to the peculiarities of the case; but it is by no means necessary to pay the same scrupulous attention to minute circumstances, which is essential in the mechanical arts, or in the management of private business. There is even a danger of dwelling too much on details, and of rendering the mind incapable of those abstract and comprehensive views of human affairs, which can alone furnish the statesman with fixed and certain maxims for the regulation of his conduct. "When a man (says Mr. Hume) deliberates concerning his conduct in "any *particular* affair, and forms schemes in politics, "trade, œconomy, or any business in life, he never "ought to draw his arguments too fine, or connect "too long a chain of consequences together. "Something is sure to happen, that will disconcert "his reasoning, and produce an event different "from what he expected. But when we reason "upon *general* subjects, one may justly affirm, that "our speculations can scarce ever be too fine, pro-"vided they are just; and that the difference be-"twixt a common man and a man of genius, is "chiefly seen in the shallowness or depth of the

"principles upon which they proceed. — 'Tis cer-
"tain that general principles, however intricate
"they may seem, must always, if they are just and
"sound, prevail in the general course of things,
"though they may fail in particular cases; and it is
"the chief business of philosophers to regard the
"general course of things. I may add, that it is also
"the chief business of politicians; especially in the
"domestic government of the state, where the pub-
"lic good, which is, or ought to be, their object,
"depends on the concurrence of a multitude of
"cases, not, as in foreign politics, upon accidents,
"and chances, and the caprices of a few persons." *

II. The difficulties which, in the mechanical arts, limit the application of general principles, remain invariably the same from age to age: and whatever observations we have made on them in the course of our past experience, lay a sure foundation for future practical skill; and supply, in so far as they reach, the defects of our theories. In the art of government, however, the practical difficulties which occur, are of a very different nature. They do not present to the statesman, the same steady subject of examination, which the effects of friction do to the engineer. They arise chiefly from the passions and opinions of men, which are in a state of perpetual change: and, therefore, the address which is necessary to overcome them, depends less on the accuracy of our observations with respect to the past, than on the sagacity of our conjectures with respect to the future. In the present age,

* Political Discourses.

more particularly, when the rapid communication, and the universal diffusion of knowledge, by means of the press, render the situation of political societies essentially different from what it ever was formerly, and secure infallibly, against every accident, the progress of human reason; we may venture to predict, that they are to be the most successful statesmen, who, paying all due regard to past experience, search for the rules of their conduct chiefly in the peculiar circumstances of their own times, and in an enlightened anticipation of the future history of mankind.

III. In the mechanical arts, if, at any time, we are at a loss about the certainty of a particular fact, we have it always in our power to bring it to the test of experiment. But it is very seldom that we can obtain in this way any useful conclusion in politics: not only because it is difficult to find two cases in which the combinations of circumstances are precisely the same, but because our acquaintance with the political experience of mankind is much more imperfect than is commonly imagined. By far the greater part of what is called matter of fact in politics, is nothing else than theory; and, very frequently, in this science, when we think we are opposing experience to speculation, we are only opposing one theory to another.

To be satisfied of the truth of this observation, it is almost sufficient to recollect how extremely difficult it is to convey, by a general description, a just idea of the actual state of any government. That every such description must necessarily be more or less theoretical, will appear from the following remarks.

1. Of the governments which have hitherto appeared in the history of mankind, few or none have taken their rise from political wisdom, but have been the gradual result of time and experience, of circumstances and emergencies. In process of time, indeed, every government acquires a systematical appearance: for, although its different parts arose from circumstances which may be regarded as accidental and irregular; yet there must exist, among these parts, a certain degree of consistency and analogy. Wherever a government has existed for ages, and men have enjoyed tranquillity under it, it is a proof that its principles are not essentially at variance with each other. Every new institution which was introduced, must have had a certain reference to the laws and usages existing before, otherwise it could not have been permanent in its operation. If any one, contrary to the spirit of the rest, should have occasionally mingled with them, it must soon have fallen into desuetude and oblivion; and those alone would remain, which accorded in their general tendency. "Quæ usu obtinuere," says Lord Bacon, "si non bona, at saltem apta inter se sunt."

The necessity of studying particular constitutions of government, by the help of systematical descriptions of them, (such descriptions, for example, as are given of that of England by Montesquieu and Blackstone,) arises from the same circumstances, which render it expedient, in most instances, to study particular languages, by consulting the writings of grammarians. In both cases, the knowledge we wish to acquire, comprehends an infinite number of particulars, the consideration of which,

in detail, would distract the attention, and overload the memory. The systematical descriptions of politicians, like the general rules of grammarians, are in a higher degree useful, for arranging, and simplifying, the objects of our study; but in both cases, we must remember, that the knowledge we acquire in this manner, is to be received with great limitations, and that it is no more possible to convey, in a systematical form, a just and complete idea of a particular government, than it is to teach a language completely by means of general rules, without any practical assistance from reading or conversation.

2. The nature and spirit of a government, as it is actually exercised at a particular period, cannot always be collected; perhaps it can seldom be collected from an examination of written laws, or of the established forms of a constitution. These may continue the same for a long course of ages, while the government may be modified in its exercise, to a great extent, by gradual and undescribable alterations in the ideas, manners, and character, of the people; or by a change in the relations which different orders of the community bear to each other. In every country whatever, beside the established laws, the political state of the people is affected by an infinite variety of circumstances, of which no words can convey a conception, and which are to be collected only from actual observation. Even in this way, it is not easy for a person who has received his education in one country, to study the government of another; on account of the difficulty which he

must necessarily experience, in entering into the associations which influence the mind under a different system of manners, and in ascertaining (especially upon political subjects) the complex ideas conveyed by a foreign language.

In consequence of the causes which have now been mentioned, it sometimes happens, that there are essential circumstances in the actual state of a government, about which the constitutional laws are not only silent, but which are directly contrary to all the written laws, and to the spirit of the constitution as delineated by theoretical writers.

IV. The art of government differs from the mechanical arts in this, that, in the former, it is much more difficult to refer effects to their causes, than in the latter; and, of consequence, it rarely happens, even when we have an opportunity of seeing a political experiment made, that we can draw from it any certain inference, with respect to the justness of the principles by which it was suggested. In those complicated machines, to which the structure of civil society has been frequently compared, as all the different parts of which they are composed are subjected to physical laws, the errors of the artist must necessarily become apparent in the last result; but in the political system, as well as in the animal body, where the general constitution is sound and healthy, there is a sort of *vis medicatrix*, which is sufficient for the cure of partial disorders; and in the one case, as well as in the other, the errors of human art are frequently corrected and concealed by the wisdom of nature. Among the many false estimates

which we daily make of human ability, there is perhaps none more groundless than the exaggerated conceptions we are apt to form of that species of political wisdom, which is supposed to be the fruit of long experience and of professional habits. "Go," (said the chancellor Oxenstiern to his son, when he was sending him to a congress of ambassadors, and when the young man was expressing his diffidence of his own abilities for such an employment;) "Go, and see with your own eyes, "*Quam parva sapientia regitur mundus!*". The truth is, (however paradoxical the remark may appear at first view,) that the speculative errors of statesmen are frequently less sensible in their effects, and, of consequence, more likely to escape without detection, than those of individuals who occupy inferior stations in society. The effects of misconduct in private life, are easily traced to their proper source, and therefore the world is seldom far wrong in the judgments which it forms of the prudence or of the imprudence of private characters. But in considering the affairs of a great nation, it is so difficult to trace events to their proper causes, and to distinguish the effects of political wisdom, from those which are the natural result of the situation of the people, that it is scarcely possible, excepting in the case of a very long administration, to appreciate the talents of a statesman from the success or the failure of his measures. In every society, too, which, in consequence of the general spirit of its government, enjoys the blessings of tranquillity and liberty, a great part of the political order which we are apt to

ascribe to legislative sagacity, is the natural result of the selfish pursuits of individuals; nay, in every such society, (as I already hinted,) the natural tendency to improvement is so strong, as to overcome many powerful obstacles, which the imperfection of human institutions opposes to its progress.

From these remarks, it seems to follow, that, although in the mechanical arts, the errors of theory may frequently be corrected by repeated trials, without having recourse to general principles; yet, in the machine of government, there is so great a variety of powers at work, beside the influence of the statesman, that it is vain to expect the art of legislation should be carried to its greatest possible perfection by experience alone.

Still, however, it may be said, that in the most imperfect governments of modern Europe, we have an experimental proof, that they secure, to a very great degree, the principal objects of the social union. Why hazard these certain advantages, for the uncertain effects of changes, suggested by mere theory; and not rest satisfied with a measure of political happiness, which appears, from the history of the world, to be greater than has commonly fallen to the lot of nations?

With those who would carry their zeal against reformation so far, it is impossible to argue; and it only remains for us to regret, that the number of such reasoners has, in all ages of the world, been so great, and their influence on human affairs so extensive.

"There are some men," (says Dr. Johnson,) "of narrow views, and grovelling conceptions,

" who, without the instigation of personal malice,
" treat every new attempt as wild and chimerical;
" and look upon every endeavour to depart from
" the beaten tract, as the rash effort of a warm
" imagination, or the glittering speculation of an
" exalted mind, that may please and dazzle for a
" time, but can produce no real or lasting ad-
" vantage.

" These men value themselves upon a perpetual
" scepticism; upon believing nothing but their own
" senses; upon calling for demonstration where it
" cannot possibly be obtained; and, sometimes,
" upon holding out against it when it is laid before
" them; upon inventing arguments against the
" success of any new undertaking; and, where
" arguments cannot be found, upon treating it
" with contempt and ridicule.

" Such have been the most formidable enemies
" of the great benefactors of the world; for their
" notions and discourse are so agreeable to the lazy,
" the envious, and the timorous, that they seldom
" fail of becoming popular, and directing the opi-
" nions of mankind." *

With respect to this sceptical disposition, as applicable to the present state of society, it is of importance to add, that, in every government, the stability and the influence of established authority must depend on the coincidence between its measures and the tide of public opinion; and that, in modern Europe, in consequence of the invention of printing, and the liberty of the press, public

* Life of DRAKE, by Dr. JOHNSON.

opinion has acquired an ascendant in human affairs, which it never possessed in those states of antiquity from which most of our political examples are drawn. The danger, indeed, of sudden and rash innovations cannot be too strongly inculcated; and the views of those men who are forward to promote them, cannot be reprobated with too great severity. But it is possible also to fall into the opposite extreme; and to bring upon society the very evils we are anxious to prevent, by an obstinate opposition to those gradual and necessary reformations which the genius of the times demands. The violent revolutions which, at different periods, have convulsed modern Europe, have arisen, not from a spirit of innovation in sovereigns and statesmen; but from their bigotted attachment to antiquated forms, and to principles borrowed from less enlightened ages. It is this reverence for abuses which have been sanctioned by time, accompanied with an inattention to the progress of public opinion, which has, in most instances, blinded the rulers of mankind, till government has lost all its efficiency; and till the rage of innovation has become too general and too violent, to be satisfied with changes, which, if proposed at an earlier period, would have united, in the support of established institutions, every friend to order, and to the prosperity of his country.

These observations I state with the greater confidence, that the substance of them is contained in the following aphorisms of Lord Bacon; a philosopher who (if we except, perhaps, the late

Mr. Turgot) seems, more than any other, to have formed enlightened views with respect to the possible attainments of mankind; and whose fame cannot fail to increase as the world grows older, by being attached, not to a particular system of variable opinions, but to the general and infallible progress of human reason.

"Quis novator tempus imitatur, quod nova-
"tiones ita insinuat, ut sensus fallant?

"Novator maximus tempus; quidni igitur tem-
"pus imitemur?

"Morosa morum retentio, res turbulenta est,
"æque ac novitas.

"Cum per se res mutentur in deterius, si con-
"silio in melius non mutentur, quis finis erit
"mali?"

The general conclusion to which these observations lead, is sufficiently obvious; that the perfection of political wisdom does not consist in an indiscriminate zeal against reformers, but in a gradual and prudent accommodation of established institutions to the varying opinions, manners, and circumstances of mankind. In the actual application, however, of this principle, many difficulties occur, which it requires a very rare combination of talents to surmount: more particularly in the present age; when the press has, to so wonderful a degree, emancipated human reason from the tyranny of ancient prejudices; and has roused a spirit of free discussion, unexampled in the history of former times.

That this sudden change in the state of the world, should be accompanied with some temporary

disorders, is by no means surprising. While the multitude continue imperfectly enlightened, they will be occasionally misled by the artifices of demagogues; and even good men, intoxicated with ideas of theoretical perfection, may be expected, sometimes to sacrifice, unintentionally, the tranquillity of their cotemporaries, to an over-ardent zeal for the good of posterity. Notwithstanding, however, these evils, which every friend to humanity must lament, I would willingly believe, that the final effects resulting from this spirit of reformation, cannot fail to be favourable to human happiness; and there are some peculiarities in the present condition of mankind, which appear to me to justify more sanguine hopes upon the subject, than it would have been reasonable for a philosopher to indulge at any former period. An attention to these peculiarities is absolutely necessary to enable us to form a competent judgment on the question to which the foregoing observations relate; and it leads to the illustration of a doctrine to which I have frequently referred in this work; the gradual improvement in the condition of the species, which may be expected from the progress of reason and the diffusion of knowledge.

Among the many circumstances favourable to human happiness in the present state of the world, the most important, perhaps, is, that the same events which have contributed to loosen the foundations of the ancient fabrics of despotism, have made it practicable, in a much greater degree than it ever was formerly, to reduce the principles of legislation to a science, and to anticipate the pro-

bable course of popular opinions. It is easy for the statesman to form to himself a distinct and steady idea of the ultimate objects at which a wise legislator ought to aim, and to foresee that modification of the social order, to which human affairs have, of themselves, a tendency to approach; and, therefore, his practical sagacity and address are limited to the care of accomplishing the important ends which he has in view, as effectually and as rapidly as is consistent with the quiet of individuals, and with the rights arising from actual establishments.

In order to lay a solid foundation for the science of politics, the first step ought to be, to ascertain that form of society which is perfectly agreeable to nature and to justice; and what are the principles of legislation necessary for maintaining it. Nor is the inquiry so difficult as might at first be apprehended; for it might be easily shewn, that the greater part of the political disorders which exist among mankind, do not arise from a want of foresight in politicians, which has rendered their laws too general, but from their having trusted too little to the operation of those simple institutions which nature and justice recommend; and, of consequence, that, as society advances to its perfection, the number of laws may be expected to diminish, instead of increasing, and the science of legislation to be gradually simplified.

The Economical system which, about thirty years ago, employed the speculations of some ingenious men in France, seems to me to have been the first attempt to ascertain this ideal perfection of the social order; and the light which, since that pe-

riod, has been thrown on the subject, in different parts of Europe, is a proof of what the human mind is able to accomplish in such inquiries, when it has once received a proper direction. To all the various tenets of these writers, I would, by no means, be understood to subscribe; nor do I consider their system as so perfect in every different part, as some of its more sanguine admirers have represented it to be. A few of the most important principles of political economy, they have undoubtedly established with demonstrative evidence; but what the world is chiefly indebted to them for, is, the commencement which they have given to a new branch of science, and the plan of investigation which they have exhibited to their successors. A short account of what I conceive to be the scope of their speculations, will justify these remarks, and will comprehend every thing which I have to offer at present, in answer to the question by which they were suggested. Such an account I attempt with the greater satisfaction, that the leading views of the earliest and most enlightened patrons of the economical system have, in my opinion, been not more misrepresented by its opponents, than misapprehended by some who have adopted its conclusions. *

In the first place, then, I think it of importance to remark, that the object of the economical system ought by no means to be confounded (as I believe it commonly is in this country) with that of the Utopian plans of government, which have, at different times, been offered to the world; and

* See Note [N].

which have so often excited the just ridicule of the more sober and reasonable inquirers. Of these plans, by far the greater number proceed on the supposition, that the social order is entirely the effect of human art; and that wherever this order is imperfect, the evil may be traced to some want of foresight on the part of the legislator; or to some inattention of the magistrate to the complicated structure of that machine of which he regulates the movements. The projects of reform, therefore, which such plans involve, are, in general, well entitled to all the ridicule and contempt they have met with; inasmuch as they imply an arrogant and presumptuous belief in their authors, of the superiority of their own political sagacity, to the accumulated wisdom of former ages. The case is very different with the economical system; of which the leading views (so far as I am able to judge) proceed on the two following suppositions: First, that the social order is, in the most essential respects, the result of the wisdom of nature, and not of human contrivance; and, therefore, that the proper business of the politician, is not to divide his attention among all the different parts of a machine, which is by far too complicated for his comprehension; but by protecting the rights of individuals, and by allowing to each, as complete a liberty as is compatible with the perfect security of the rights of his fellow-citizens; to remove every obstacle which the prejudices and vices of men have opposed to the establishment of that order which society has a tendency to assume. Secondly; that, in proportion to the progress and the diffusion of

knowledge, those prejudices, on a skilful management of which, all the old systems of policy proceeded, must gradually disappear; and, consequently, that (whatever may be his predilection for ancient usages) the inevitable course of events imposes on the politician the necessity of forming his measures on more solid and permanent principles, than those by which the world has hitherto been governed. Both of these suppositions are of modern origin. The former, so far as I know, was first stated and illustrated by the French Economists. The latter has been obviously suggested by that rapid improvement which has actually taken place in every country of Europe where the press has enjoyed a moderate degree of liberty.

It may be farther remarked, with respect to the greater part of the plans proposed by Utopian projectors, that they proceed on the supposition of a miraculous reformation in the moral character of a people, to be effected by some new system of education. All such plans (as Mr. Hume has justly observed) may be safely abandoned as impracticable and visionary. But this objection does not apply to the economical system; the chief expedient of which, for promoting moral improvement, is not that education which depends on the attention and care of our instructors; but an education which necessarily results from the political order of society. "How ineffectual" (said the Roman poet) "are the "wisest laws, if they be not supported by good mo- "rals!" How ineffectual (say the Economists) are all our efforts to preserve the morals of a people, if the laws which regulate the political order, doom the

one half of mankind to indigence, to fraud, to servility, to ignorance, to superstition; and the other half to be the slaves of all the follies and vices which result from the insolence of rank, and the selfishness of opulence? Suppose for a moment, that the inordinate accumulation of wealth in the hands of individuals, which we every where meet with in modern Europe, were gradually diminished by abolishing the law of entails, and by establishing a perfect freedom of commerce and of industry; it is almost self-evident, that this simple alteration in the order of society; an alteration which has been often demonstrated to be the most effectual and the most infallible measure for promoting the wealth and population of a country; would contribute, more than all the labours of moralists, to secure the virtue and the happiness of all the classes of mankind. It is worthy too of remark, that such a plan of reformation does not require, for its accomplishment, any new and complicated institutions; and, therefore, does not proceed upon any exaggerated conception of the efficacy of human policy. On the contrary, it requires only (like most of the other expedients proposed by this system) the gradual abolition of those arbitrary and unjust arrangements, by which the order of nature is disturbed.

Another mistaken idea concerning the economical system is, that it is founded entirely upon theory, and unsupported by facts. That this may be the case with respect to some of its doctrines, I shall not dispute: but, in general, it may be safely affirmed, that they rest on a broader basis of facts, than any other political speculations which have been yet

offered to the world; for they are founded, not on a few examples collected from the small number of governments of which we possess an accurate knowledge; but on those laws of human nature, and those maxims of common sense, which are daily verified in the intercourse of private life.

Of those who have speculated on the subject of legislation, by far the greater part seem to have considered it as a science *sui generis*; the first principles of which can be obtained in no other way, than by an examination of the conduct of mankind in their political capacity. The economists, on the contrary, have searched for the causes of national prosperity, and national improvement, in those arrangements, which our daily observations shew to be favourable to the prosperity and to the improvement of individuals. The former resemble those philosophers of antiquity, who, affirming that the phenomena of the heavens are regulated by laws peculiar to themselves, discouraged every attempt to investigate their physical causes, which was founded upon facts collected from common experience. The latter have aimed at accomplishing a reformation in politics, similar to what Kepler and Newton accomplished in astronomy; and, by subjecting to that common sense, which guides mankind in their private concerns, those questions, of which none were supposed to be competent judges, but men initiated in the mysteries of government, have given a beginning to a science which has already extended very widely our political prospects; and which, in its progress, may probably afford an illustration, not less striking than that which physical

astronomy exhibits, of the simplicity of those laws by which the universe is governed.

When a political writer, in order to expose the folly of those commercial regulations which aim at the encouragement of domestic industry by restraints on importation, appeals to the maxims upon which men act in private life; when he remarks, that the taylor does not attempt to make his own shoes, but buys them of the shoemaker; that the shoemaker does not attempt to make his own clothes, but employs a taylor; and when he concludes, that what is prudence in the conduct of every private family, can scarcely be folly in that of a great kingdom *; he may undoubtedly be said, in one sense, to indulge in theory; as he calls in question the utility of institutions which appear, from the fact, to be not incompatible with a certain degree of political prosperity. But, in another sense, and in a much more philosophical one, he may be said to oppose to the false theories of statesmen, the common sense of mankind; and those maxims of expediency, of which every man may verify the truth by his own daily observation.

There is yet another mistake, (of still greater consequence, perhaps, than any of those I have mentioned,) which has misled most of the opponents, and even some of the friends, of the economical system; an idea that it was meant to exhibit a political order, which is really attainable in the present state of Europe. So different from this were the views of its most enlightened advocates,

* See Mr. SMITH's profound and original "Inquiry into "the Nature and Causes of the Wealth of Nations."

that they have uniformly rested their only hopes of its gradual establishment in the world, on that influence in the conduct of human affairs, which philosophy may be expected gradually to acquire, in consequence of the progress of reason and civilisation. To suppose that a period is ever to arrive, when it shall be realised in its full extent, would be the height of enthusiasm and absurdity; but it is surely neither enthusiasm nor absurdity to affirm, that governments are more or less perfect, in proportion to the greater or smaller number of individuals to whom they afford the means of cultivating their intellectual and moral powers, and whom they admit to live together on a liberal footing of equality; — or even to expect, that, in proportion to the progress of reason, governments will actually approach nearer and nearer to this description.

To delineate that state of political society to which governments may be expected to approach nearer and nearer as the triumphs of philosophy extend, was, I apprehend, the leading object of the earliest and most enlightened patrons of the economical system. It is a state of society, which they by no means intended to recommend to particular communities, as the most eligible they could adopt at present; but as an ideal order of things, to which they have a tendency of themselves to approach, and to which it ought to be the aim of the legislator to facilitate their progress. In the language of mathematicians, it forms a *limit* to the progressive improvement of the political order; and, in the mean time, it exhibits a standard of comparison, by which the excellence of particular institutions may be estimated.

According to the view which has now been given of the economical system, its principles appear highly favourable to the tranquillity of society; inasmuch as, by inspiring us with a confidence in the triumph which truth and liberty must infallibly gain in the end over error and injustice, it has a tendency to discourage every plan of innovation which is to be supported by violence and bloodshed. And, accordingly, such has always been the language of those who were best acquainted with the views of its authors. "If we attack oppressors, before we "have taught the oppressed," (says one of the ablest of its present supporters *,) "we shall risk "the loss of liberty, and rouse them to oppose the "progress of reason. History affords proofs of this "truth. How often, in spite of the efforts of the "friends of freedom, has the event of a single "battle reduced nations to the slavery of ages!

"And what is the kind of liberty enjoyed by "those nations, which have recovered it by force "of arms, and not by the influence of philosophy? "Have not most of them confounded the forms of "republicanism with the enjoyment of right, and "the despotism of numbers with liberty? How "many laws, contrary to the rights of nature, have "dishonoured the code of every people which has "recovered its freedom, during those ages in which "reason was still in its infancy!"

"Why not profit by this fatal experience, and "wisely wait the progress of knowledge, in order "to obtain freedom more effectual, more substan-"tial, and more peaceful? Why pursue it by blood "and inevitable confusion, and trust that to chance,

* M. CONDORCET.

" which time must certainly, and without blood-
" shed, bestow? A fortunate struggle may, indeed,
" relieve us of many grievances under which we
" labour at present, but if we wish to secure the
" perfection, and the permanence of freedom, we
" must patiently wait the period when men, eman-
" cipated from their prejudices, and guided by phi-
" losophy, shall be rendered worthy of liberty, by
" comprehending its claims." *

Nor is it the employment of violent and sanguinary means alone, in order to accomplish political innovations, that this enlightened and humane philosophy has a tendency to discourage. By extending our views to the whole plan of civil society, and shewing us the mutual relations and dependencies of its most distant parts, it cannot fail to check that indiscriminate zeal against established institutions, which arises from partial views of the social system; as well as to produce a certain degree of scepticism with respect to every change, the success of which is not insured by the prevailing ideas and manners of the age. Sanguine and inconsiderate projects of reformation are frequently the offspring of clear and argumentative and systematical understandings; but rarely of comprehensive minds. For checking them, indeed, nothing is so effectual, as a general survey of the complicated structure of society. Even although such a survey should be su-

* To some of my readers it may appear trifling to remark, that, in availing myself of an occasional coincidence of sentiment with a contemporary Author, I would not be understood to become responsible for the consistency of his personal conduct with his philosophical principles, nor to subscribe to any one of his opinions, but those to which I have expressed my assent by incorporating them with my own composition. [*Note to Second Edition.*]

perficial, provided it be conducted on an extensive scale, it is more useful, at least, for this purpose, than the most minute and successful inquiries, which are circumscribed within a narrow circle. If it should teach us nothing else, it will at least satisfy us of the extreme difficulty of predicting, with confidence, the remote effects of new arrangements; and that the perfection of political wisdom consists not in incumbering the machine of government with new contrivances to obviate every partial inconvenience, but in removing gradually, and imperceptibly, the obstacles which disturb the order of nature, and (as Mr. Addison somewhere expresses it) "in grafting upon her institutions."

When the economical system, indeed, is first presented to the mind, and when we compare the perfection which it exhibits, with the actual state of human affairs, it is by no means unnatural, that it should suggest plans of reformation too violent and sudden to be practicable. A more complete acquaintance, however, with the subject, will effectually cure these first impressions, by pointing out to us the mischiefs to be apprehended from an injudicious combination of theoretical perfection with our established laws, prejudices, and manners. As the various unnatural modes and habits of living, to which the bodily constitution is gradually reconciled by a course of luxurious indulgences, have such a tendency to correct each other's effects, as to render a partial return to a more simple regimen, a dangerous, and, sometimes, a fatal experiment; so it is possible, that many of our imperfect political institutions may be so accommodated to each other, that a partial execution of the most plausible and

equitable plans of reformation, might tend, in the first instance, to frustrate those important purposes which we are anxious to promote. Is it not possible, for example, that the influence which is founded on a respect for hereditary rank, may have its use in counteracting that aristocracy which arises from inequality of wealth; and which so many laws and prejudices conspire to support? That the former species of influence is rapidly declining of itself, in consequence of the progress which commerce and philosophy have already made, is sufficiently obvious; and, I think, it may reasonably be doubted, whether a well-wisher to mankind would be disposed to accelerate its destruction, till the true principles of political economy are completely understood and acknowledged by the world.

Various other examples might be produced, to illustrate the dangers to be apprehended from the partial influence of general principles in politics; or, in other words from an exclusive attention to particular circumstances in the political order, without comprehensive views of the subject. It is only upon a limited mind, therefore, that such studies will produce a passion for violent innovations. In more comprehensive and enlightened understandings, their natural effect is caution and diffidence with respect to the issue of every experiment, of which we do not perceive distinctly all the remote consequences. Nor is this caution at all inconsistent with a firm confidence in the certainty of that triumph which truth and liberty must infallibly gain in the end over error and injustice. On the contrary, it is a natural and obvious con-

sequence of such a conviction; inasmuch as the same arguments on which this conviction is founded, prove to us, that the progress of mankind towards the perfection of the social order, must necessarily, in every case, be gradual; and that it must be diversified in the course it takes, according to the situations and characters of nations. To direct, and, as far as possible, to accelerate, this progress, ought to be the great aim of the enlightened statesman, and, indeed, of every man who wishes well to his species; but it is necessary for him always to remember, that considerable alterations in the established order, are very seldom to be effected immediately and directly by political regulations; and that they are, in all cases, most successful and most permanent, when they are accomplished gradually by natural causes, freed from those restraints which had formerly checked their operation. In the governments, indeed, of modern Europe, it is much more necessary to abolish old institutions, than to introduce new ones; and if this reformation be kept steadily in view, and not pushed farther at any time than circumstances render expedient, or the ideas of the times recommend, the essential principles of a more perfect order of things, will gradually establish themselves, without any convulsion.

According to this view of the subject, the speculation concerning the perfect order of society, is to be regarded merely as a description of the ultimate objects at which the statesman ought to aim. The tranquillity of his administration, and the immediate success of his measures, depend on his good sense, and his practical skill. And his theo-

retical principles only enable him to direct his measures steadily and wisely, to promote the improvement and happiness of mankind; and prevent him from being ever led astray from these important objects, by more limited views of temporary expedience. *

* The foregoing observations on the general aim of the Economical System refer solely (as must appear evident to those who have perused them with attention) to the doctrines it contains on the article of *Political Economy*. *The Theory of Government* which it inculcates, is of the most dangerous tendency; recommending in strong and unqualified terms, an unmixed despotism; and reprobating all constitutional checks on the sovereign authority. Many English writers, indeed, with an almost incredible ignorance of the works which they have presumed to censure, have spoken of them, as if they encouraged political principles of a very different complexion; but the truth is, that the disciples of *Quesnay* (without a single exception), carried their zeal for the power of the monarch, and what they called the *Unity of Legislation*, to so extravagant a length, as to treat with contempt, those mixed establishments which allow any share whatever of legislative influence to the representatives of the people. On the one hand, the evidence of this system appeared to its partisans so complete and irresistible, that they flattered themselves, monarchs would soon see, with an intuitive conviction, the identity of their own interests with those of the nations they are called to govern; and, on the other hand, they contended, that it is only under the strong and steady government of a race of hereditary princes, undistracted by the prejudices and local interests which warp the deliberations of popular assemblies, that a gradual and systematical approach can be made to the perfection of law and policy. The very first of *Quesnay*'s maxims states, as a fundamental principle, that the sovereign authority, unrestrained by any constitutional checks or balances, should be lodged in the hands of a single person; and the same doctrine is maintained zealously by all his followers; — by none of them more explicitly than by *Mercier de la Riviere*, whose treatise on "the natural and essential order of political societies," might have been expected to attract some notice in this country, from

Before closing this disquisition, it may be proper for me to attempt to obviate a little more fully than I have done, an objection which has been frequently drawn from the past experience of mankind, against that supposition of their progressive improvement on which all the foregoing reasonings proceed. How mournful are the vicissitudes which history exhibits to us, in the course of human affairs; and how little foundation do they afford to our sanguine prospects concerning futurity! If, in those parts of the earth which were formerly inhabited by barbarians, we now see the most splendid exertions of genius, and the happiest forms of civil policy, we behold others which, in ancient times, were the seats of science, of civilisation, and of liberty, at present immersed in superstition, and laid waste by despotism: After a short period of civil, of military, and of literary glory, the prospect has changed at once: the career of degeneracy has begun, and has proceeded till it could advance no farther; or some unforeseen calamity has occurred, which has obliterated, for a time, all memory of former improvements, and has condemned mankind to re-trace, step by step, the same path by which

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the praise which Mr. Smith has bestowed on the perspicuity of his style, and the distinctness of his arrangement.

If some individuals who formerly professed an enthusiastic attachment to the doctrines of this sect, have, at a later period of their lives, distinguished themselves by an enthusiasm no less ardent in opposition to the principles advanced in their writings, the fact only affords an additional illustration of a truth verified by daily experience, that the most solid foundation for political consistency is a spirit of moderation, and that the most natural and easy of all transitions is from the violence and intolerance of one extreme to those of another. [*Note to Second Edition.*]

their forefathers had risen to greatness. In a word; on such a retrospective view of human affairs, man appears to be the mere sport of fortune and of accident; or rather, he appears to be doomed, by the condition of his nature, to run alternately the career of improvement and of degeneracy; and to realise the beautiful, but melancholy fable of Sisyphus, by an eternal renovation of hope and of disappointment.

In opposition to these discouraging views of the state and prospects of man; it may be remarked in general, that in the course of these latter ages, a variety of events have happened in the history of the world, which render the condition of the human race essentially different from what it ever was among the nations of antiquity; and which, of consequence, render all our reasonings concerning their future fortunes, in so far as they are founded merely on their past experience, unphilosophical and inconclusive. The alterations which have taken place in the art of war, in consequence of the invention of fire-arms, and of the modern science of fortification, have given to civilised nations a security against the irruptions of barbarians, which they never before possessed. The more extended, and the more constant intercourse, which the improvements in commerce and in the art of navigation have opened, among the distant quarters of the globe, cannot fail to operate in undermining local and national prejudices, and in imparting to the whole species the intellectual acquisitions of each particular community. The accumulated experience of ages has already taught the rulers of mankind, that the most fruitful and the

most permanent sources of revenue, are to be derived, not from conquered and tributary provinces, but from the internal prosperity and wealth of their own subjects:—and the same experience now begins to teach nations, that the increase of their own wealth, so far from depending on the poverty and depression of their neighbours, is intimately connected with their industry and opulence; and consequently, that those commercial jealousies, which have hitherto been so fertile a source of animosity among different states, are founded entirely on ignorance and prejudice. Among all the circumstances, however, which distinguish the present state of mankind from that of ancient nations, the invention of printing is by far the most important; and, indeed, this single event, independently of every other, is sufficient to change the whole course of human affairs.

The influence which printing is likely to have on the future history of the world, has not, I think, been hitherto examined, by philosophers, with the attention which the importance of the subject deserves. One reason for this may, probably have been, that, as the invention has never been made but once, it has been considered rather as the effect of a fortunate accident, than as the result of those general causes on which the progress of society seems to depend. But it may be reasonably questioned, how far this idea be just. For, although it should be allowed, that the invention of printing was accidental, with respect to the individual who made it, it may, with truth, be considered as the natural result of a state of the world, when a number of great and contiguous nations are all

engaged in the study of literature, in the pursuit of science, and in the practice of the arts: insomuch, that I do not think it extravagant to affirm, that, if this invention had not been made by the particular person to whom it is ascribed, the same art, or some analogous art, answering a similar purpose, would have infallibly been invented by some other person, and at no very distant period. The art of printing, therefore, is intitled to be considered as a step in the natural history of man, no less than the art of writing; and they who are sceptical about the future progress of the race, merely in consequence of its past history, reason as unphilosophically, as a member of a savage tribe, who, deriving his own acquaintance with former times from oral tradition only, should affect to call in question the efficacy of written records, in accelerating the progress of knowledge and of civilisation.

What will be the particular effects of this invention, (which has been, hitherto, much checked in its operation, by the restraints on the liberty of the press in the greater part of Europe,) it is beyond the reach of human sagacity to conjecture; but, in general, we may venture to predict with confidence, that, in every country, it will gradually operate to widen the circle of science and civilisation; to distribute more equally, among all the members of the community, the advantages of the political union; and to enlarge the basis of equitable governments, by increasing the number of those who understand their value, and are interested to defend them. The science of legislation, too, with all the other branches of knowledge which are connected with

human improvement, may be expected to advance with rapidity; and, in proportion as the opinions and institutions of men approach to truth and to justice, they will be secured against those revolutions to which human affairs have always been hitherto subject. *Opinionum enim commenta delet dies, naturæ judicia confirmat.*

The revolutions incident to the democratical states of antiquity furnish no solid objection to the foregoing observations; for none of these states enjoyed the advantages which modern times derive from the diffusion, and from the rapid circulation of knowledge. In these states, most of the revolutions which happened, arose from the struggles of demagogues, who employed the passions of the multitude, in subserviency to their own interest and ambition; and to all of them, the ingenious and striking remark of Hobbes will be found applicable; that "Democracy is nothing but an "aristocracy of orators, interrupted sometimes by "the temporary monarchy of a single orator." While this continued to be the case, democratical constitutions were, undoubtedly, the most unfavourable of any to the tranquillity of mankind; and the only way to preserve the order of society was, by skilfully balancing against each other, the prejudices, and the separate interests, of different orders of citizens. That such balances, however, will every day become less necessary for checking the turbulence of the democratical spirit in free governments, appears probable from this; that among the various advantages to be expected from the liberty of the press, one of the greatest is, the effect which it must necessarily have in dimi-

nishing the influence of popular eloquence; both by curing men of those prejudices upon which it operates, and by subjecting it to the irresistible control of enlightened opinions. In the republican states of antiquity, the eloquence of demagogues was indeed a dangerous engine of faction, while it aspired to govern nations by its unlimited sway in directing popular councils. But, now, when the effusions of the orator are, by means of the press, subjected to the immediate tribunal of an inquisitive age, the eloquence of legislative assemblies is forced to borrow its tone from the spirit of the times; and if it retain its ascendant in human affairs, it can only be, by lending its aid to the prevailing cause, and to the permanent interests of truth and of freedom.

Of the progress which may yet be made in the different branches of moral and political philosophy, we may form some idea, from what has already happened in physics, since the time that Lord Bacon united, in one useful direction, the labours of those who cultivate that science. At the period when he wrote, physics was certainly in a more hopeless state, than that of moral and political philosophy in the present age. A perpetual succession of chimerical theories had, till then, amused the world; and the prevailing opinion was, that the case would continue to be the same for ever. Why then should we despair of the competency of the human faculties to establish solid and permanent systems, upon other subjects, which are of still more serious importance? Physics, it is true, is free from many difficulties which obstruct our progress in moral and political inquiries; but, perhaps, this advan-

tage may be more than counterbalanced, by the tendency they have to engage a more universal, and a more earnest attention, in consequence of their coming home more immediately to our "business and our bosoms." When these sciences too begin to be prosecuted on a regular and systematical plan, their improvement will go on with an accelerated velocity; not only as the number of speculative minds will be every day increased by the diffusion of knowledge, but as an acquaintance with the just rules of inquiry, will more and more place important discoveries within the reach of ordinary understandings. "Such rules," (says Lord Bacon,) "do, in some sort, equal men's wits, "and leave no great advantage or pre-eminence to "the perfect and excellent motions of the spirit. "To draw a straight line, or to describe a circle, "by aim of hand only, there must be a great differ- "ence between an unsteady and an unpractised "hand, and a steady and practised; but, to do it "by rule or compass, it is much alike."

Nor must we omit to mention the value which the art of printing communicates to the most limited exertions of literary industry, by treasuring them up as materials for the future examination of more enlightened inquirers. In this respect the press bestows upon the sciences, an advantage somewhat analogous to that which the mechanical arts derive from the division of labour. As in these arts, the exertions of an uninformed multitude, are united by the comprehensive skill of the artist, in the accomplishment of effects astonishing by their magnitude, and by the complicated ingenuity they display; so, in the sciences, the observ-

ations and conjectures of obscure individuals on those subjects which are level to their capacities, and which fall under their own immediate notice, accumulate for a course of years; till at last, some philosopher arises, who combines these scattered materials, and exhibits, in his system, not merely the force of a single mind, but the intellectual power of the age in which he lives.

It is upon these last considerations, much more than on the efforts of original genius, that I would rest my hopes of the progress of the race. What genius alone could accomplish in science, the world has already seen: and I am ready to subscribe to the opinion of those who think, that the splendor of its past exertions is not likely to be obscured by the fame of future philosophers. But the experiment yet remains to be tried, what lights may be thrown on the most important of all subjects, by the free discussions of inquisitive nations, unfettered by prejudice, and stimulated in their inquiries by every motive that can awaken whatever is either generous or selfish in human nature. How trifling are the effects which the bodily strength of an individual is able to produce, (however great may be his natural endowments,) when compared with those which have been accomplished by the conspiring force of an ordinary multitude? It was not the single arm of a Theseus, or a Hercules, but the hands of such men as ourselves, that, in ancient Egypt, raised those monuments of architecture, which remain from age to age, to attest the wonders of combined and of persevering industry; and, while they humble the importance

of the individual, to exalt the dignity, and to animate the labours, of the species.

These views with respect to the probable improvement of the world, are so conducive to the comfort of those who entertain them, that even, although they were founded in delusion, a wise man would be disposed to cherish them. What should have induced some respectable writers to controvert them, with so great an asperity of expression, it is not easy to conjecture; for whatever may be thought of their truth, their practical tendency is surely favourable to human happiness; nor can that temper of mind, which disposes a man to give them a welcome reception, be candidly suspected of designs hostile to the interests of humanity. One thing is certain, that the greatest of all obstacles to the improvement of the world, is that prevailing belief of its improbability, which damps the exertions of so many individuals; and that in proportion as the contrary opinion becomes general, it realises the event which it leads us to anticipate. Surely, if any thing can have a tendency to call forth in the public service the exertions of individuals, it must be an idea of the magnitude of that work in which they are conspiring, and a belief of the permanence of those benefits, which they confer on mankind by every attempt to inform and to enlighten them. As in ancient Rome, therefore, it was regarded as the mark of a good citizen, never to despair of the fortunes of the republic;—so the good citizen of the world, whatever may be the political aspect of his own times, will never despair of the fortunes of the human race; but will act upon the conviction, that prejudice, slavery, and corrup-

tion, must gradually give way to truth, liberty, and virtue; and that, in the moral world, as well as in the material, the farther our observations extend, and the longer they are continued, the more we shall perceive of order and of benevolent design in the universe.

Nor is this change in the condition of Man, in consequence of the progress of reason, by any means contrary to the general analogy of his natural history. In the infancy of the individual, his existence is preserved by instincts, which disappear afterwards, when they are no longer necessary. In the savage state of our species, there are instincts which seem to form a part of the human constitution; and of which no traces remain in those periods of society in which their use is superseded by a more enlarged experience. Why then should we deny the probability of something similar to this, in the history of mankind considered in their political capacity? I have already had occasion to observe, that the governments which the world has hitherto seen, have seldom or never taken their rise from deep-laid schemes of human policy. In every state of society which has yet existed, the multitude has, in general, acted from the immediate impulse of passion, or from the pressure of their wants and necessities; and, therefore, what we commonly call the political order, is, at least in a great measure, the result of the passions and wants of man, combined with the circumstances of his situation; or, in other words, it is chiefly the result of the wisdom of nature. So beautifully, indeed, do these passions and circumstances act in subserviency to her designs, and so invariably have they been found, in the history of past ages, to conduct him in time to certain beneficial arrangements, that we

can hardly bring ourselves to believe, that the end was not foreseen by those who were engaged in the pursuit. Even in those rude periods of society, when, like the lower animals, he follows blindly his instinctive principles of action, he is led by an invisible hand, and contributes his share to the execution of a plan, of the nature and advantages of which he has no conception. The operations of the bee, when it begins, for the first time, to form its cell, conveys to us a striking image of the efforts of unenlightened Man, in conducting the operations of an infant government.

A great variety of prejudices might be mentioned, which are found to prevail universally among our species in certain periods of society, and which seem to be essentially necessary for maintaining its order, in ages when men are unable to comprehend the purposes for which governments are instituted. As society advances, these prejudices gradually lose their influence on the higher classes, and would probably soon disappear altogether, if it were not found expedient to prolong their existence, as a source of authority over the multitude. In an age, however, of universal and of unrestrained discussion, it is impossible that they can long maintain their empire; nor ought we to regret their decline, if the important ends to which they have been subservient in the past experience of mankind, are found to be accomplished by the growing light of philosophy. On this supposition, a history of human prejudices, as far as they have supplied the place of more enlarged political views, may, at some future period, furnish to the philosopher a subject of speculation no less pleasing

and instructive, than that beneficent wisdom of nature, which guides the operations of the lower animals; and which, even in our own species, takes upon itself the care of the individual in the infancy of human reason.

I have only to observe farther, that, in proportion as these prospects, with respect to the progress of reason, the diffusion of knowledge, and the consequent improvement of mankind, shall be realised; the political history of the world will be regulated by steady and uniform causes, and the philosopher will be enabled to form probable conjectures with respect to the future course of human affairs.

It is justly remarked by Mr. Hume, that "what "depends on a few persons is, in a great measure, "to be ascribed to chance, or secret and unknown "causes: what arises from a great number, may "often be accounted for by determinate and known "causes." "To judge by this rule," (he continues,) "the domestic and the gradual revolutions of a state "must be a more proper object of reasoning and observation, than the foreign and the violent, which "are commonly produced by single persons, and are "more influenced by whim, folly, or caprice, than "by general passions and interests. The depression "of the Lords, and rise of the Commons, in England, "after the statutes of alienation and the increase of "trade and industry, are more easily accounted for "by general principles, than the depression of the "Spanish, and rise of the French monarchy, after "the death of Charles the Fifth. Had Harry the "Fourth, Cardinal Richlieu, and Louis the Fourteenth, been Spaniards; and Philip the Second, "Third, and Fourth, and Charles the Second, been

"Frenchmen; the history of these nations had been "entirely reversed."

From these principles, it would seem to be a necessary consequence, that, in proportion as the circumstances shall operate which I have been endeavouring to illustrate, the whole system of human affairs, including both the domestic order of society in particular states, and the relations which exist among different communities, in consequence of war and negotiation, will be subjected to the influence of causes which are "known and determinate." Those domestic affairs, which, according to Mr. Hume, are already proper subjects of reasoning and observation, in consequence of their dependence on general interests and passions, will become so, more and more, daily, as prejudices shall decline, and knowledge shall be diffused among the lower orders; while the relations among different states, which have depended hitherto, in a great measure, on the "whim, folly, and caprice," of single persons, will be gradually more and more regulated by the general interests of the individuals who compose them, and by the popular opinions of more enlightened times. Already, during the very short interval which has elapsed since the publication of Mr. Hume's writings, an astonishing change has taken place in Europe. The mysteries of courts have been laid open; the influence of secret negotiation on the relative situation of states has declined; and the studies of those men whose public spirit or ambition devotes them to the service of their country, have been diverted from the intrigues of cabinets, and the details of the diplomatic code, to the liberal and manly pursuits of political philosophy.

CHAPTER FIFTH.

Of the Association of Ideas.

THE subject on which I am now to enter, naturally divides itself into two Parts. The First, relates to the influence of Association, in regulating the succession of our thoughts; the Second, to its influence on the intellectual powers, and on the moral character, by the more intimate and indissoluble combinations which it leads us to form in infancy and in early youth. The two inquiries, indeed, run into each other; but it will contribute much to the order of our speculations, to keep the foregoing arrangement in view.

PART FIRST.

Of the Influence of Association in regulating the Succession of our Thoughts.

SECTION I.

General Observations on this Part of our Constitution, and on the Language of Philosophers with respect to it.

THAT one thought is often suggested to the mind by another; and that the sight of an external object often recals former occurrences, and revives former feelings, are facts which are perfectly familiar, even

to those who are the least disposed to speculate concerning the principles of their nature. In passing along a road which we have formerly travelled in the company of a friend, the particulars of the conversation in which we were then engaged, are frequently suggested to us by the objects we meet with. In such a scene, we recollect that a particular subject was started; and, in passing the different houses, and plantations, and rivers, the arguments we were discussing when we last saw them, recur spontaneously to the memory. The connexion which is formed in the mind between the words of a language and the ideas they denote; the connexion which is formed between the different words of a discourse we have committed to memory; the connexion between the different notes of a piece of music in the mind of the musician, are all obvious instances of the same general law of our nature.

The influence of perceptible objects in reviving former thoughts and former feelings, is more particularly remarkable. After time has, in some degree, reconciled us to the death of a friend, how wonderfully are we affected the first time we enter the house where he lived! Every thing we see; the apartment where he studied; the chair upon which he sat, recal to us the happiness we have enjoyed together; and we should feel it a sort of violation of that respect we owe to his memory, to engage in any light or indifferent discourse when such objects are before us. In the case, too, of those remarkable scenes which interest the curiosity, from the memorable persons or transactions which we have been accustomed to connect with

them in the course of our studies, the fancy is more awakened by the actual perception of the scene itself, than by the mere conception or imagination of it. Hence the pleasure we enjoy in visiting classical ground; in beholding the retreats which inspired the genius of our favourite authors, or the fields which have been dignified by exertions of heroic virtue. How feeble are the emotions produced by the liveliest conception of modern Italy, to what the poet felt, when, amidst the ruins of Rome,

> " He drew th' inspiring breath of ancient arts,
> " —— And trod the sacred walks
> " Where, at each step, imagination burns!" *

The well-known effect of a particular tune on Swiss regiments when at a distance from home, furnishes a very striking illustration of the peculiar power of a perception, or of an impression on the senses, to awaken associated thoughts and feelings; and numberless facts of a similar nature must have occurred to every person of moderate sensibility, in the course of his own experience.

" Whilst we were at dinner," (says Captain King,) " in this miserable hut, on the banks of the " river Awatska; the guests of a people with whose " existence we had before been scarce acquainted, " and at the extremity of the habitable globe; a " solitary, half-worn pewter spoon, whose shape was " familiar to us, attracted our attention; and, on " examination, we found it stamped on the back " with the word *London*. I cannot pass over this

* " Quacunque ingredimur," (says Cicero, speaking of Athens,) " in aliquam historiam vestigium ponimus."

" circumstance in silence, out of gratitude for the " many pleasant thoughts, the anxious hopes, and " tender remembrances, it excited in us. Those " who have experienced the effects that long ab- " sence, and extreme distance from their native " country, produce on the mind, will readily con- " ceive the pleasure such a trifling incident can " give."

The difference between the effect of a perception and an idea, in awakening associated thoughts and feelings, is finely described in the introduction to the fifth book *De Finibus*.

" We agreed," (says Cicero,) " that we should " take our afternoon's walk in the academy, as at " that time of the day it was a place where there " was no resort of company. Accordingly, at the " hour appointed, we went to Piso's. We passed " the time in conversing on different matters during " our short walk from the double gate, till we came " to the academy, that justly celebrated spot; which, " as we wished, we found a perfect solitude." " I " know not," (said Piso,) " whether it be a natural " feeling, or an illusion of the imagination founded " on habit, that we are more powerfully affected " by the sight of those places which have been much " frequented by illustrious men, than when we " either listen to the recital, or read the detail, of " their great actions. At this moment, I feel " strongly that emotion which I speak of. I see " before me, the perfect form of Plato, who was " wont to dispute in this very place! these gardens " not only recal him to my memory, but present " his very person to my senses. I fancy to myself,

" that here stood Speusippus; there Xenocrates,
" and here, on this bench, sat his disciple Polemo.
" To me, our ancient senate-house seems peopled
" with the like visionary forms; for, often, when
" I enter it, the shades of Scipio, of Cato, and of
" Lælius, and, in particular, of my venerable grand-
" father, rise to my imagination. In short, such is
" the effect of local situation in recalling associated
" ideas to the mind, that it is not without reason,
" some philosophers have founded on this principle
" a species of artificial memory."

This influence of perceptible objects, in awakening associated thoughts and associated feelings, seems to arise, in a great measure, from their permanent operation as exciting or suggesting causes. When a train of thought takes its rise from an idea or conception, the first idea soon disappears, and a series of others succeeds, which are gradually less and less related to that with which the train commenced; but, in the case of perception, the exciting cause remains steadily before us; and all the thoughts and feelings which have any relation to it, crowd into the mind in rapid succession; strengthening each other's effects, and all conspiring in the same general impression.

I already observed, that the connexions which exist among our thoughts, have been long familiarly known to the vulgar, as well as to philosophers. It is, indeed, only of late, that we have been possessed of an appropriated phrase to express them; but that the general fact is not a recent discovery, may be inferred from many of the common maxims of prudence and of propriety, which have plainly been

suggested by an attention to this part of our constitution. When we lay it down, for example, as a general rule, to avoid in conversation all expressions, and all topics of discourse, which have any relation, however remote, to ideas of an unpleasant nature, we plainly proceed on the supposition that there are certain connexions among our thoughts, which have an influence over the order of their succession. It is unnecessary to remark, how much of the comfort and good-humour of social life depends on an attention to this consideration. Such attentions are more particularly essential in our intercourse with men of the world; for the commerce of society has a wonderful effect in increasing the quickness and the facility with which we associate all ideas which have any reference to life and manners *; and, of consequence, it must render the sensibility alive to many circumstances which, from the remoteness of their relation to the situation and history of the parties, would otherwise have passed unnoticed.

When an idea, however, is thus suggested by association, it produces a slighter impression, or, at least, it produces its impression more gradually, than if it were presented more directly and imme-

* The superiority which the man of the world possesses over the recluse student, in his knowledge of mankind, is partly the result of this quickness and facility of association. Those trifling circumstances in conversation and behaviour, which, to the latter, convey only their most obvious and avowed meaning, lay open to the former, many of the trains of thought which are connected with them, and frequently give him a distinct view of a character, on that very side where it is supposed to be most concealed from his observation.

diately to the mind. And hence, when we are under a necessity of communicating any disagreeable information to another, delicacy leads us, instead of mentioning the thing itself, to mention something else from which our meaning may be understood. In this manner, we prepare our hearers for the unwelcome intelligence.

The distinction between gross and delicate flattery, is founded upon the same principle. As nothing is more offensive than flattery which is direct and pointed, praise is considered as happy and elegant, in proportion to the slightness of the associations by which it is conveyed.

To this tendency which one thought has to introduce another, philosophers have given the name of the *Association of Ideas;* and, as I would not wish, excepting in a case of necessity, to depart from common language, or to expose myself to the charge of delivering old doctrines in a new form, I shall continue to make use of the same expression. I am sensible, indeed, that the expression is by no means unexceptionable; and that, if it be used (as it frequently has been) to comprehend those laws by which the succession of all our thoughts and of all our mental operations is regulated, the word *idea* must be understood in a sense much more extensive than it is commonly employed in. It is very justly remarked by Dr. Reid, that "memory, judgment, reasoning, passions, affec- "tions, and purposes; in a word, every operation "of the mind, excepting those of sense, is excited "occasionally in the train of our thoughts: so that, "if we make the train of our thoughts to be only

"a train of ideas, the word *idea* must be un-
"derstood to denote all these operations." In continuing, therefore, to employ, upon this subject, that language, which has been consecrated by the practice of our best philosophical writers in England, I would not be understood to dispute the advantages which might be derived from the introduction of a new phrase, more precise and more applicable to the fact.

The ingenious author whom I last quoted, seems to think that the *association of ideas* has no claim to be considered as an original principle, or as an ultimate fact in our nature. "I believe," (says he,) "that the original principles of the mind, of "which we can give no account, but that such is "our constitution, are more in number than is "commonly thought. But we ought not to mul-
"tiply them without necessity. That trains of "thinking, which by frequent repetition have be-
"come familiar, should spontaneously offer them-
"selves to our fancy, seems to require no other "original quality but the power of habit."

With this observation I cannot agree; because I think it more philosophical to resolve the power of habit into the association of ideas, than to resolve the association of ideas into habit.

The word *habit*, in the sense in which it is commonly employed, expresses that facility which the mind acquires, in all its exertions, both animal and intellectual, in consequence of practice. We apply it to the dexterity of the workman; to the extemporary fluency of the orator; to the rapidity of the arithmetical accountant. That this facility is the

effect of practice, we know from experience to be a fact; but it does not seem to be an ultimate fact, nor incapable of analysis.

In the Essay on Attention, I shewed that the effects of practice are produced partly on the body, and partly on the mind. The muscles which we employ in mechanical operations, become stronger, and become more obedient to the will. This is a fact, of which it is probable that philosophy will never be able to give any explanation.

But even in mechanical operations, the effects of practice are produced partly on the mind; and, as far as this is the case, they are resolvable into what philosophers call the *association of ideas;* or into that general fact, which Dr. Reid himself has stated, "that trains of thinking, which, by frequent "repetition, have become familiar, spontaneously "offer themselves to the mind." In the case of habits which are purely intellectual, the effects of practice resolve themselves completely into this principle: and it appears to me more precise and more satisfactory, to state the principle itself as a law of our constitution, than to slur it over under the concise appellation of *habit*, which we apply in common to mind and to body.

The tendency in the human mind to associate or connect its thoughts together, is sometimes called (but very improperly) the *imagination*. Between these two parts of our constitution, there is indeed a very intimate relation; and it is probably owing to this relation, that they have been so generally confounded under the same name. When the mind is occupied about absent objects of sense,

(which, I believe, it is habitually in the great majority of mankind,) its train of thought is merely a series of conceptions; or, in common language, of imaginations.* In the case, too, of poetical imagination, it is the association of ideas that supplies the materials out of which its combinations are formed; and when such an imaginary combination is become familiar to the mind, it is the association of ideas that connects its different parts together, and unites them into one whole. The association of ideas, therefore, although perfectly distinct from the power of imagination, is immediately and essentially subservient to all its exertions.

The last observation seems to me to point out, also, the circumstance which has led the greater part of English writers, to use the words Imagination and Fancy as synonymous. It is obvious that a creative imagination, when a person possesses it so habitually that it may be regarded as forming one of the characteristics of his genius, implies a power of summoning up, at pleasure, a particular class of ideas; and of ideas related to each other in a particular manner; which power can be the result only, of certain habits of association, which the individual has acquired. It is to this power of the mind, which is evidently a particular turn of thought, and not one of the common principles of our nature, that our best writers (so far as I am

* Accordingly, Hobbes calls the train of thought in the mind, "Consequentia sive series imaginationum." "Per seriem imaginationum intelligo successionem unius cogitationis ad aliam." — LEVIATHAN, cap. iii.

able to judge) refer, in general, when they make use of the word *fancy*: I say, in general; for in disquisitions of this sort, in which the best writers are seldom precise and steady in the employment of words, it is only to their prevailing practice that we can appeal as an authority. What the particular relations are, by which those ideas are connected that are subservient to poetical imagination, I shall not inquire at present. I think they are chiefly those of resemblance and analogy. But whatever they may be, the power of summoning up at pleasure the ideas so related, as it is the groundwork of poetical genius, is of sufficient importance in the human constitution to deserve an appropriated name; and, for this purpose, the word *fancy* would appear to be the most convenient that our language affords.

Dr. Reid has somewhere observed, that "the part "of our constitution on which the association of "ideas depends, was called, by the older English "writers, *the fantasy or fancy*;" an use of the word, we may remark, which coincides, in many instances, with that which I propose to make of it. It differs from it only in this, that these writers applied it to the association of ideas in general, whereas I restrict its application to that habit of association, which is subservient to poetical imagination.

According to the explanation which has now been given of the word Fancy, the office of this power is to collect materials for the Imagination; and therefore the latter power presupposes the former, while the former does not necessarily suppose the latter. A man whose habits of association present to him,

for illustrating or embellishing a subject, a number of resembling or of analogous ideas, we call a man of fancy; but for an effort of imagination, various other powers are necessary, particularly the powers of taste and of judgment; without which, we can hope to produce nothing that will be a source of pleasure to others. It is the power of fancy which supplies the poet with metaphorical language, and with all the analogies which are the foundation of his allusions; but it is the power of imagination that creates the complex scenes he describes, and the fictitious characters he delineates. To fancy, we apply the epithets of rich or luxuriant; to imagination, those of beautiful or sublime.

SECTION II.

Of the Principles of Association among our Ideas.

The facts which I stated in the former section, to illustrate the tendency of a perception, or of an idea, to suggest ideas related to it, are so obvious as to be matter of common remark. But the relations which connect all our thoughts together, and the laws which regulate their succession, were but little attended to before the publication of Mr. Hume's writings.

It is well known to those who are in the least conversant with the present state of metaphysical science, that this eminent writer has attempted to reduce all the principles of association among our ideas to three: Resemblance, Contiguity in time and place, and Cause and Effect. The attempt was

great, and worthy of his genius; but it has been shewn by several writers since his time *, that his enumeration is not only incomplete, but that it is even indistinct, so far as it goes.

It is not necessary for my present purpose, that I should enter into a critical examination of this part of Mr. Hume's system; or that I should attempt to specify those principles of association which he has omitted. Indeed, it does not seem to me, that the problem admits of a satisfactory solution; for there is no possible relation among the objects of our knowledge, which may not serve to connect them together in the mind: and, therefore, although one enumeration may be more comprehensive than another, a perfectly complete enumeration is scarcely to be expected.

Nor is it merely in consequence of the relations among things, that our notions of them are associ-

* See, in particular, Lord Kaimes's Elements of Criticism, and Dr. Gerard's Essay on Genius. See also Dr. Campbell's Philosophy of Rhetoric, vol. i. p. 197.

It is observed by Dr. Beattie, that something like an attempt to enumerate the laws of association is to be found in Aristotle; who, in speaking of Recollection, insinuates, with his usual brevity, that "the relations, by which we are led from one thought "to another, in tracing out, or *hunting after*," (as he calls it,) "any particular thought which does not immediately occur, are "chiefly three; Resemblance, Contrariety, and Contiguity."

See *Dissertations, Moral and Critical*, p. 9. Also p. 145.

The passage to which Dr. Beattie refers is as follows:

Ὁταν οὖν αναμιμνησκωμεθα, κινουμεθα των προτερων τινα κινησεων, ἑως αν κινηθωμεν, μεθ' ἡν εκεινη ειωθε. Διο και το εφεξης θηρευομεν νοησαντες απο του νυν, η αλλου τινος, και αφ' ὁμοιου, η εναντιου, η του συνεγγυς. Δια τουτο γινεται ἡ αναμνησις.

ARISTOT. *de Memor. et Reminisc.* vol. i. p. 681. Edit. DU VAL.

ated: they are frequently coupled together by means of relations among the words which denote them; such as a similarity of sound, or other circumstances still more trifling. The alliteration which is so common in poetry, and in proverbial sayings, seems to arise, partly at least, from associations of ideas founded on the accidental circumstance, of the two words which express them beginning with the same letter.

"But thousands die, without or this or that,
Die; and endow a College, or a Cat."
POPE'S Ep. to Lord BATHURST.

"Ward tried, on Puppies, and the Poor, his drop."
Id. Imitat. of HORACE.

"Puffs, powders, patches; Bibles, billets-doux."
RAPE of the LOCK.

This indeed pleases only on slight occasions, when it may be supposed that the mind is in some degree playful, and under the influence of those principles of association which commonly take place when we are careless and disengaged. Every person must be offended with the second line of the following couplet, which forms part of a very sublime description of the Divine power:

"Breathes in our soul, informs our mortal part,
As full, as perfect, in a Hair as Heart."
ESSAY on MAN, Ep. i.

To these observations, it may be added, that things which have no known relation to each other are often associated, in consequence of their producing similar effects on the mind. Some of the

finest poetical allusions are founded on this principle; and accordingly, if the reader is not possessed of sensibility congenial to that of the poet, he will be apt to overlook their meaning, or to censure them as absurd. To such a critic it would not be easy to vindicate the beauty of the following stanza, in an Ode addressed to a Lady by the Author of *the Seasons:*

> "Oh thou, whose tender, serious eye
> Expressive speaks the soul I love;
> The gentle azure of the sky,
> The pensive shadows of the grove."

I have already said, that the view of the subject which I propose to take, does not require a complete enumeration of our principles of association. There is, however, an important distinction among them, to which I shall have occasion frequently to refer; and which, as far as I know, has not hitherto attracted the notice of philosophers. The relations upon which some of them are founded, are perfectly obvious to the mind; those which are the foundation of others, are discovered only in consequence of particular efforts of attention. Of the former kind, are the relations of Resemblance and Analogy, of Contrariety, of Vicinity in time and place, and those which arise from accidental coincidences in the sound of different words. These, in general, connect our thoughts together, when they are suffered to take their natural course, and when we are conscious of little or no active exertion. Of the latter kind, are the relations of Cause and Effect, of Means and End, of Premises and Conclusion; and those

others, which regulate the train of thought in the mind of the philosopher, when he is engaged in a particular investigation.

It is owing to this distinction, that transitions, which would be highly offensive in philosophical writing, are the most pleasing of any in poetry. In the former species of composition, we expect to see an Author lay down a distinct plan or method, and observe it rigorously; without allowing himself to ramble into digressions, suggested by the accidental ideas or expressions, which may occur to him in his progress. In that state of mind in which Poetry is read, such digressions are not only agreeable, but necessary to the effect; and an arrangement founded on the spontaneous and seemingly casual order of our thoughts, pleases more than one suggested by an accurate analysis of the subject.

How absurd would the long digression in praise of Industry, in Thomson's Autumn, appear, if it occurred in a prose essay! — a digression, however, which, in that beautiful poem, arises naturally and insensibly from the view of a luxuriant harvest; and which as naturally leads the Poet back to the point where his excursion began:

"All is the gift of Industry; whate'er
Exalts, embellishes, and renders life
Delightful. Pensive Winter, cheer'd by him,
Sits at the social fire, and happy hears
Th' excluded tempest idly rave along;
His harden'd fingers deck the gaudy Spring;
Without him Summer were an arid waste;
Nor to th' Autumnal months could thus transmit
Those full, mature, immeasurable stores,
That waving round, recal my wand'ring Song."

In Goldsmith's Traveller, the transitions are managed with consummate skill; and yet, how different from that logical method which would be suited to a philosophical discourse on the state of society in the different parts of Europe! Some of the finest are suggested by the associating principle of Contrast. Thus, after describing the effeminate and debased Romans, the Poet proceeds to the Swiss:

> "My soul, turn from them — turn we to survey
> Where rougher climes a nobler race display."

And, after painting some defects in the manners of this gallant but unrefined people, his thoughts are led to those of the French:

> "To kinder skies, where gentler manners reign,
> I turn — and France displays her bright domain."

The transition which occurs in the following lines, seems to be suggested by the accidental mention of a word; and is certainly one of the happiest in our language:

> "Heavens! how unlike their Belgic Sires of old!
> Rough, poor, content, ungovernably bold;
> War in each breast, and freedom on each brow,
> How much unlike the sons of Britain now! —
> — Fir'd at the sound, my Genius spreads her wing,
> And flies, where Britain courts the western spring."

Numberless illustrations of the same remark might be collected from the ancient Poets, more particularly from the Georgics of Virgil, where the singular felicity of the transitions has attracted the notice even of those, who have been the least disposed to

indulge themselves in philosophical refinements concerning the principles of criticism. A celebrated instance of this kind occurs in the end of the first Book; — the consideration of the weather and of its common prognostics leading the fancy, in the first place, to those more extraordinary phenomena which, according to the superstitious belief of the vulgar, are the forerunners of political Revolutions; and, afterwards, to the Death of Cæsar, and the battles of Pharsalia and Philippi. The manner in which the Poet returns to his original subject, displays that exquisite art which is to be derived only from the diligent and enlightened study of nature.

> " Scilicet et tempus veniet, cùm finibus illis
> Agricola, incurvo terram molitus aratro,
> Exesa inveniet scabrâ rubigine pila;
> Aut gravibus rastris galeas pulsabit inanes,
> Grandiaque effossis mirabitur ossa sepulchris."

The facility with which ideas are associated in the mind, is very different in different individuals: a circumstance which, as I shall afterwards shew, lays the foundation of remarkable varieties among men, both in respect of genius and of character. I am inclined, too, to think that, in the other sex, (probably in consequence of early education,) ideas are more easily associated together, than in the minds of men. Hence the liveliness of their fancy, and the superiority they possess in epistolary writing, and in those kinds of poetry, in which the principal recommendations are, ease of thought and expression. Hence, too, the facility with which they contract or lose habits, and accommodate their

minds to new situations; and, I may add, the disposition they have to that species of superstition which is founded on accidental combinations of circumstances. The influence which this facility of association has on the power of Taste, shall be afterwards considered.

SECTION III.

Of the Power which the Mind has over the Train of its Thoughts.

By means of the Association of Ideas, a constant current of thoughts, if I may use the expression, is made to pass through the mind while we are awake. Sometimes the current is interrupted, and the thoughts diverted into a new channel, in consequence of the ideas suggested by other men, or of the objects of perception with which we are surrounded. So completely, however, is the mind in this particular subjected to physical laws, that it has been justly observed *, we cannot, by an effort of our will, call up any one thought; and that the train of our ideas depends on causes which operate in a manner inexplicable by us.

This observation, although it has been censured as paradoxical, is almost self-evident; for, to call up a particular thought, supposes it to be already in the mind. As I shall have frequent occasion, however, to refer to the observation afterwards, I shall endeavour to obviate the only objection which, I think, can reasonably be urged against it; and which is founded on that operation of the mind which is

* By Lord Kaimes and others.

commonly called recollection or intentional memory.

It is evident, that before we attempt to recollect the particular circumstances of any event, that event in general must have been an object of our attention. We remember the outlines of the story, but cannot at first give a complete account of it. If we wish to recal these circumstances, there are only two ways in which we can proceed. We must either form different suppositions, and then consider which of these tallies best with the other circumstances of the event; or, by revolving in our mind the circumstances we remember, we must endeavour to excite the recollection of the other circumstances associated with them. The first of these processes is, properly speaking, an inference of reason, and plainly furnishes no exception to the doctrine already delivered. We have an instance of the other mode of recollection, when we are at a loss for the beginning of a sentence in reciting a composition that we do not perfectly remember; in which case we naturally repeat over, two or three times, the concluding words of the preceding sentence, in order to call up the other words which used to be connected with them in the memory. In this instance, it is evident, that the circumstances we desire to remember, are not recalled to the mind in immediate consequence of an exertion of volition, but are suggested by some other circumstances with which they are connected, independently of our will, by the laws of our constitution.

Notwithstanding, however, the immediate dependence of the train of our thoughts on the laws of association, it must not be imagined that the will

possesses no influence over it. This influence, indeed, is not exercised directly and immediately, as we are apt to suppose, on a superficial view of the subject: but it is, nevertheless, very extensive in its effects; and the different degrees in which it is possessed by different individuals, constitute some of the most striking inequalities among men, in point of intellectual capacity.

Of the powers which the mind possesses over the train of its thoughts, the most obvious is its power of singling out any one of them at pleasure; of detaining it; and of making it a particular object of attention. By doing so, we not only stop the succession that would otherwise take place; but, in consequence of our bringing to view the less obvious relations among our ideas, we frequently divert the current of our thoughts into a new channel. If, for example, when I am indolent and inactive, the name of Sir Isaac Newton accidentally occur to me, it will perhaps suggest, one after another, the names of some other eminent mathematicians and astronomers, or of some of his illustrious contemporaries and friends: and a number of them may pass in review before me, without engaging my curiosity in any considerable degree. In a different state of mind, the name of Newton will lead my thoughts to the principal incidents of his life, and the more striking features of his character: or, if my mind be ardent and vigorous, will lead my attention to the sublime discoveries he made; and gradually engage me in some philosophical investigation. To every object, there are others which bear obvious and striking relations;

and others, also, whose relation to it does not readily occur to us, unless we dwell upon it for some time, and place it before us in different points of view.

But the principal power we possess over the train of our ideas, is founded on the influence which our habits of thinking have on the laws of Association; an influence which is so great, that we may often form a pretty shrewd judgment concerning a man's prevailing turn of thought, from the transitions he makes in conversation or in writing. It is well known, too, that by means of habit, a particular associating principle may be strengthened to such a degree, as to give us a command of all the different ideas in our mind, which have a certain relation to each other; so that when any one of the class occurs to us, we have almost a certainty that it will suggest the rest. What confidence in his own powers must a speaker possess, when he rises without premeditation, in a popular assembly, to amuse his audience with a lively or an humorous speech! Such a confidence, it is evident, can only arise from a long experience of the strength of particular associating principles.

To how great a degree this part of our constitution may be influenced by habit, appears from facts which are familiar to every one. A man who has an ambition to become a punster, seldom or never fails in the attainment of his object; that is, he seldom or never fails in acquiring a power which other men have not, of summoning up, on a particular occasion, a number of words different from each other in meaning, and resembling each other

more or less, in sound. I am inclined to think that even genuine wit is a habit acquired in a similar way; and that, although some individuals may, from natural constitution, be more fitted than others to acquire this habit; it is founded in every case on a peculiarly strong association among certain classes of our ideas, which gives the person who possesses it, a command over those ideas which is denied to ordinary men. But there is no instance in which the effect of habits of association is more remarkable, than in those men who possess a facility of rhyming. That a man should be able to express his thoughts perspicuously and elegantly, under the restraints which rhyme imposes, would appear to be incredible, if we did not know it to be fact. Such a power implies a wonderful command both of ideas and of expressions; and yet daily experience shews that it may be gained with very little practice. Pope tells us with respect to himself, that he could express himself not only more concisely, but more easily, in rhyme than in prose. *

Nor is it only in these trifling accomplishments that we may trace the influence of habits of association. In every instance of invention, either in the fine arts, in the mechanical arts, or in the sciences, there is some new idea, or some new combination of ideas, brought to light by the inventor. This,

* "When habit is once gained, nothing so easy as practice. "Cicero writes, that Antipater the Sidonian could pour forth "hexameters extempore; and that, whenever he chose to versify, "words followed him of course. We may add to Antipator, the "antient rhapsodists of the Greeks, and the modern improvisa-"tori of the Italians. HARRIS's *Phil. Inq.* 108, 110.

undoubtedly, may often happen in a way which he is unable to explain; that is, his invention may be suggested to him by some lucky thought, the origin of which he is unable to trace. But when a man possesses a habitual fertility of invention in any particular art or science, and can rely, with confidence, on his inventive powers, whenever he is called upon to exert them, he must have acquired, by previous habits of study, a command over certain classes of his ideas, which enables him, at pleasure, to bring them under his review. The illustration of these subjects may throw light on some processes of the mind, which are not in general well understood: and I shall accordingly, in the following Section, offer a few hints with respect to those habits of association which are the foundation of wit; of the power of rhyming; of poetical fancy; and of invention in matters of science.

SECTION IV.

Illustrations of the Doctrine stated in the preceding Section.

I. *Of Wit.*

According to Locke, Wit consists, "in the "assemblage of ideas; and putting those together "with quickness and variety, wherein can be found "any resemblance, or congruity." * I would add to this definition, (rather by way of comment than of amendment,) that wit implies a power of calling up at pleasure the ideas which it combines: and I am inclined to believe, that the entertainment which it gives to the hearer, is founded, in a considerable degree, on his surprise, at the command which the man of wit has acquired over a part of the constitution, which is so little subject to the will.

That the effect of wit depends partly, at least, on the circumstance now mentioned, appears evidently from this, that we are more pleased with a *bon mot*, which occurs in conversation, than with one in print; and that we never fail to receive disgust from wit, when we suspect it to be premeditated. The pleasure, too, we receive from wit, is heightened, when the original idea is started by one person, and the related idea by another. Dr. Campbell has remarked, that "a witty repartee is in-"finitely more pleasing, than a witty attack; and "that an allusion will appear excellent when

* Essay on Human Understanding, book ii. chap. 11.

"thrown out extempore in conversation, which "would be deemed execrable in print." In all these cases, the wit considered absolutely is the same. The relations which are discovered between the compared ideas are equally new: and yet, as soon as we suspect that the wit was premeditated, the pleasure we receive from it is infinitely diminished. Instances indeed may be mentioned, in which we are pleased with contemplating an unexpected relation between ideas, without any reference to the habits of association in the mind of the person who discovered it. A *bon mot* produced at the game of cross-purposes, would not fail to create amusement; but in such cases, our pleasure seems chiefly to arise from the surprise we feel at so extraordinary a coincidence between a question and an answer coming from persons who had no direct communication with each other.

Of the effect added to wit by the promptitude with which its combinations are formed, Fuller appears to have had a very just idea, from what he has recorded of the social hours of our two great English Dramatists. "Johnson's parts were not so ready "to run of themselves, as able to answer the spur; "so that it may be truly said of him, that he had an "*elaborate wit*, wrought out by his own industry. "— Many were the wit combats between him and "Shakespeare, which two I behold like a Spanish "great galleon, and an English man of war. John-"son (like the former) was built far higher in learn-"ing; solid, but slow in his performances. Shake-"speare, with the English man of war, lesser in bulk, "but lighter in sailing, could turn with all tides,

" tack about and take advantage of all winds, by " the quickness of his wit and invention." *

I before observed, that the pleasure we receive from wit is increased, when the two ideas between which the relation is discovered, are suggested by different persons. In the case of a *bon mot* occurring in conversation, the reason of this is abundantly obvious; because, when the related ideas are suggested by different persons, we have a proof that the wit was not premeditated. But even in a written composition, we are much more delighted when the subject was furnished to the author by another person, than when he chooses the topic on which he is to display his wit. How much would the pleasure we receive from the *Key to the Lock* be diminished, if we suspected that the author had the key in view when he wrote that poem; and that he introduced some expressions, in order to furnish a subject for the wit of the commentator? How totally would it destroy the pleasure we receive from a parody on a poem, if we suspected that both were productions of the same author? The truth seems to be, that when both the related ideas are suggested by the same person, we have not a very satisfactory proof of any thing uncommon in the intellectual habits of the author. We may suspect that both ideas occurred to him at the same time; and we know that in the dullest and most phlegmatic minds, such extraordinary associations will sometimes take place. But when the subject of the wit is furnished by one person, and the wit suggested by another, we have a proof, not only

* History of the Worthies of England. London, 1662.

that the author's mind abounds with such singular associations, but that he has his wit perfectly at command.

As an additional confirmation of these observations, we may remark, that the more an author is limited by his subject, the more we are pleased with his wit. And, therefore, the effect of wit does not arise solely from the unexpected relations which it presents to the mind, but arises, in part, from the surprise it excites at those intellectual habits which give it birth. It is evident, that the more the author is circumscribed in the choice of his materials, the greater must be the command which he has acquired over those associating principles on which wit depends, and of consequence, according to the foregoing doctrine, the greater must be the surprise and the pleasure which his wit produces.

In Addison's celebrated verses to Sir Godfrey Kneller on his picture of George the First, in which he compares the painter to Phidias, and the subjects of his pencil to the Grecian Deities, the range of the Poet's wit was necessarily confined within very narrow bounds; and what principally delights us in that performance is, the surprising ease and felicity with which he runs the parallel between the English history and the Greek mythology. Of all the allusions which the following passage contains, there is not one, taken singly, of very extraordinary merit; and yet the effect of the whole is uncommonly great, from the singular power of combination, which so long and so difficult an exertion discovers.

" Wise Phidias thus, his skill to prove,
" Thro' many a god advanced to Jove,
" And taught the polish'd rocks to shine
" With airs and lineaments divine,
" Till Greece amaz'd and half afraid,
" Th' assembled Deities survey'd.
" Great Pan, who wont to chase the fair,
" And lov'd the spreading oak, was there;
" Old Saturn, too, with up-cast eyes,
" Beheld his abdicated skies;
" And mighty Mars, for war renown'd,
" In adamantine armour frown'd;
" By him the childless Goddess rose,
" Minerva, studious to compose
" Her twisted threads; the web she strung,
" And o'er a loom of marble hung;
" Thetis, the troubled ocean's queen,
" Match'd with a mortal next was seen,
" Reclining on a funeral urn,
" Her short-liv'd darling son to mourn;
" The last was he, whose thunder slew
" The Titan race, a rebel crew,
" That from a hundred hills ally'd,
" In impious league their King defy'd."

According to the view which I have given of the nature of Wit, the pleasure we derive from that assemblage of ideas which it presents, is greatly heightened and enlivened by our surprise at the command displayed over a part of the constitution, which, in our own case, we find to be so little subject to the will. We consider Wit as a sort of feat or trick of intellectual dexterity, analogous, in some respects, to the extraordinary performances of jugglers and rope-dancers; and, in both cases, the pleasure we receive from the exhibition, is explicable *in part*, (I, by no means, say *entirely*,) on the same principles.

If these remarks be just, it seems to follow as a consequence, that those men who are most deficient in the power of prompt combination, will be most poignantly affected by it, when exerted at the will of another: and therefore, the charge of jealousy and envy brought against rival Wits, when disposed to look grave at each other's jests, may perhaps be obviated in a way less injurious to their character.

The same remarks suggest a limitation, or rather an explanation, of an assertion of Lord Chesterfield's, that "genuine wit never made any man "laugh since the creation of the world." The observation, I believe, to be just, if by genuine wit, we mean wit wholly divested of every mixture of humour: and if by laughter, we mean that convulsive and noisy agitation which is excited by the ludicrous. But there is unquestionably a *smile* appropriated to the flashes of wit; — a smile of surprise and wonder; — not altogether unlike the effect produced on the mind and the countenance, by a feat of legerdemain when executed with uncommon success.

II. *Of Rhyme.*

The pleasure we receive from rhyme, seems also to arise, partly, from our surprise at the command which the Poet must have acquired over the train of his ideas, in order to be able to express himself with elegance, and the appearance of ease, under the restraint which rhyme imposes. In witty or in humorous performances, this surprise serves to en-

liven that which the wit or the humour produces, and renders its effects more sensible. How flat do the liveliest and most ludicrous thoughts appear in blank verse? And how wonderfully is the wit of Pope heightened, by the easy and happy rhymes in which it is expressed?

It must not, however, be imagined, either in the case of wit or of rhyme, that the pleasure arises solely from our surprise at the uncommon habits of association which the author discovers. In the former case, there must be presented to the mind, an unexpected analogy or relation between different ideas: and perhaps other circumstances must concur to render the wit perfect. If the combination has no other merit than that of bringing together two ideas which never met before, we may be surprised at its oddity, but we do not consider it as a proof of wit. On the contrary, the want of any analogy or relation between the combined ideas, leads us to suspect, that the one did not suggest the other, in consequence of any habits of association; but that the two were brought together by study, or by mere accident. All that I affirm is, that when the analogy or relation is pleasing in itself, our pleasure is heightened by our surprise at the author's habits of association when compared with our own. In the case of Rhyme, too, there is undoubtedly a certain degree of pleasure arising from the recurrence of the same sound. We frequently observe children amuse themselves with repeating over single words which rhyme together: and the lower people, who derive little pleasure from poetry, excepting in so far as it affects the

ear, are so pleased with the echo of the rhymes, that when they read verses where it is not perfect, they are apt to supply the Poet's defects, by violating the common rules of pronunciation. This pleasure, however, is heightened by our admiration at the miraculous powers which the Poet must have acquired over the train of his ideas, and over all the various modes of expression which the language affords, in order to convey instruction and entertainment, without transgressing the established laws of regular versification. In some of the lower kinds of poetry; for example, in acrostics, and in the lines which are adapted to *bouts-rimés*, the merit lies entirely in this command of thought and expression; or, in other words, in a command of ideas founded on extraordinary habits of association. Even some authors of a superior class, occasionally shew an inclination to display their knack at rhyming, by introducing, at the end of the first line of a couplet, some word to which the language hardly affords a corresponding sound. Swift, in his more trifling pieces, abounds with instances of this; and in Hudibras, when the author uses his double and triple rhymes, many couplets have no merit whatever but what arises from difficulty of execution.

The pleasure we receive from rhyme in serious compositions, arises from a combination of different circumstances which my present subject does not lead me to investigate particularly. * I am per-

* In Elegiac poetry, the recurrence of the same sound, and the uniformity in the structure of the versification which this necessarily occasions, are peculiarly suited to the inactivity of the mind, and to the slow and equable succession of its ideas, when

suaded, however, that it arises, in part, from our surprise at the Poet's habits of association, which enable him to convey his thoughts with ease and beauty, notwithstanding the narrow limits within which his choice of expression is confined. One proof of this is, that if there appear any mark of constraint, either in the ideas or in the expression, our pleasure is proportionally diminished. The thoughts must seem to suggest each other, and the rhymes to be only an accidental circumstance. The same remark may be made on the measure of the verse. When in its greatest perfection, it does not appear to be the result of labour, but to be dictated by nature, or prompted by inspiration. In Pope's best verses, the idea is expressed with as little inversion of style, and with as much conciseness, precision, and propriety, as the author could have attained, had he been writing prose: without any apparent exertion on his part, the words seem spontaneously to arrange themselves in the most musical numbers.

"While still a child, nor yet a fool to fame,
"I lisp'd in numbers, for the numbers came."

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under the influence of tender or melancholy passions; and accordingly, in such cases, even the Latin poets, though the genius of their language be very ill fitted for compositions in rhyme, occasionally indulge themselves in something very nearly approaching to it:

"Memnona si mater, mater ploravit Achillem,
"Et tangant magnas tristia fata Deas;
"Flebilis indignos Elegeia solve capillos,
"Ah nimis ex vero nunc tibi nomen erit."

Many other instances of the same kind might be produced from the Elegiac verses of Ovid and Tibullus.

This facility of versification, it is true, may be, and probably is, in most cases, only apparent: and it is reasonable to think, that in the most perfect poetical productions, not only the choice of words, but the choice of ideas, is influenced by the rhymes. In a prose composition, the author holds on in a direct course, according to the plan he has previously formed; but in a poem, the rhymes which occur to him are perpetually diverting him to the right hand or to the left, by suggesting ideas which do not naturally rise out of his subject. This, I presume, is Butler's meaning in the following couplet:

> "Rhymes the rudder are of verses
> "With which, like ships, they steer their courses."

But although this may be the case in fact, the Poet must employ all his art to conceal it: insomuch that if he finds himself under a necessity to introduce, on account of the rhymes, a superfluous idea, or an awkward expression, he must place it in the first line of the couplet, and not in the second; for the reader, naturally presuming that the lines were composed in the order in which the author arranges them, is more apt to suspect the second line to be accommodated to the first, than the first to the second. And this slight artifice is, in general, sufficient to impose on that degree of attention with which poetry is read. Who can doubt that, in the following lines, Pope wrote the first for the sake of the second?

> "A wit's a feather, and a chief's a rod;
> "An honest man's the noblest work of God."

Were the first of these lines, or a line equally unmeaning, placed last, the couplet would have appeared execrable to a person of the most moderate taste.

It affords a strong confirmation of the foregoing observations, that the Poets of some nations have delighted in the practice of alliteration, as well as of rhyme; and have even considered it as an essential circumstance in versification. Dr. Beattie observes, that "some ancient English poems are "more distinguished by alliteration, than by any "other poetical contrivance. In the works of "Langland, even when no regard is had to rhyme, "and but little to a rude sort of anapestic measure, "it seems to have been a rule, that three words, "at least, of each line should begin with the same "letter." A late author informs us, that, in the Icelandic poetry, alliteration is considered as a circumstance no less essential than rhyme.* He mentions also several other restraints, which must add wonderfully to the difficulty of versification; and which appear to us to be perfectly arbitrary and capricious. If that really be the case, the whole pleasure of the reader or hearer arises from his surprise at the facility of the Poet's composition under these complicated restraints; that is, from

* "The Icelandic poetry requires two things; viz. words "with the same initial letters, and words of the same sound. It "was divided into stanzas, each of which consisted of four "couplets; and each of these couplets was again composed of "two hemisticks, of which every one contained six syllables; "and it was not allowed to augment this number, except in "cases of the greatest necessity." See VAN TROIL'S Letters on Iceland, p. 208.

his surprise at the command which the Poet has acquired over his thoughts and expressions. In our rhyme, I acknowledge, that the coincidence of sound is agreeable in itself; and only affirm, that the pleasure which the ear receives from it, is heightened by the other consideration.

III. *Of Poetical Fancy.*

THERE is another habit of association, which, in some men, is very remarkable; that which is the foundation of Poetical Fancy: a talent which agrees with Wit in some circumstances, but which differs from it essentially in others.

The pleasure we receive from Wit, agrees in one particular with the pleasure which arises from poetical allusions; that in both cases we are pleased with contemplating an analogy between two different subjects. But they differ in this, that the man of Wit has no other aim than to combine analogous ideas*; whereas no allusion can, with propriety, have a place in serious poetry, unless it either illustrate or adorn the principal subject. If it has both these recommendations, the allusion is perfect. If it has neither, as is often the case with the allusions of Cowley and of Young, the Fancy of the Poet degenerates into Wit.

If these observations be well-founded, they suggest a rule with respect to poetical allusions, which has not always been sufficiently attended to. It frequently happens, that two subjects bear an

* I speak here of pure and unmixed wit; and not of wit, blended, as it is most commonly, with some degree of humour.

analogy to each other in more respects than one; and where such can be found, they undoubtedly furnish the most favourable of all occasions for the display of Wit. But, in serious poetry, I am inclined to think, that however striking these analogies may be; and although each of them might, with propriety, be made the foundation of a separate allusion; it is improper, in the course of the same allusion, to include more than one of them; as, by doing so, an author discovers an affectation of Wit, or a desire of tracing analogies, instead of illustrating or adorning the subject of his composition.

I formerly defined Fancy to be a power of associating ideas according to relations of resemblance and analogy. This definition will probably be thought too general; and to approach too near to that given of Wit. In order to discover the necessary limitations, we shall consider what the circumstances are, which please us in poetical allusions. As these allusions are suggested by Fancy, and are the most striking instances in which it displays itself, the received rules of Critics with respect to them, may throw some light on the mental power which gives them birth.

1. An allusion pleases, by illustrating a subject comparatively obscure. Hence, I apprehend, it will be found, that allusions from the intellectual world to the material, are more pleasing, than from the material world to the intellectual. Mason, in his Ode to Memory, compares the influence of that faculty over our ideas, to the authority of a general over his troops:

——— "thou, whose sway
"The throng'd ideal hosts obey;
"Who bidst their ranks now vanish, now appear;
"Flame in the van, or darken in the rear."

Would the allusion have been equally pleasing, from a general marshalling his soldiers, to Memory and the succession of ideas?

The effect of a literal and spiritless translation of a work of genius, has been compared to that of the figures which we see, when we look at the wrong side of a beautiful piece of tapestry. The allusion is ingenious and happy; but the pleasure which we receive from it arises, not merely from the analogy which it presents to us, but from the illustration which it affords of the author's idea. No one, surely, in speaking of a piece of tapestry, would think of comparing the difference between its sides, to that between an original composition and a literal translation!

Cicero, and after him Mr. Locke, in illustrating the difficulty of attending to the subjects of our consciousness, have compared the Mind to the Eye, which sees every object around it, but is invisible to itself. To have compared the Eye, in this respect, to the Mind, would have been absurd.

Mr. Pope's comparison of the progress of youthful curiosity, in the pursuits of science, to that of a traveller among the Alps, has been much, and justly, admired. How would the beauty of the allusion have been diminished, if the Alps had furnished the original subject, and not the illustration!

But although this rule holds, in general, I acknowledge, that instances may be produced, from

our most celebrated poetical performances, of allusions from material objects, both to the intellectual and the moral worlds. These, however, are comparatively few in number, and are not to be found in descriptive or in didactic works; but in compositions written under the influence of some particular passion, or which are meant to express some peculiarity in the mind of the author. Thus, a melancholy man, who has met with many misfortunes in life, will be apt to moralize on every physical event, and every appearance of nature; because his attention dwells more habitually on human life and conduct, than on the material objects around him. This is the case with the banished Duke, in Shakespeare's *As you like it;* who, in the language of that Poet,

> " Finds tongues in trees, books in the running brooks,
> " Sermons in stones, and good in every thing."

But this is plainly a distempered state of the mind; and the allusions please, not so much by the analogies they present, as by the picture they give of the character of the person to whom they have occurred.

2. An allusion pleases, by presenting a new and beautiful image to the mind. The analogy or the resemblance between this image and the principal subject, is agreeable of itself, and is indeed necessary, to furnish an apology for the transition which the writer makes, but the pleasure is wonderfully heightened, when the new image thus presented is a beautiful one. The following allusion, in one of Mr. Home's tragedies, appears to me to unite almost every excellence:

—— "Hope and fear, alternate, sway'd his breast;
"Like light and shade upon a waving field,
"Coursing each other, when the flying clouds
"Now hide, and now reveal, the Sun."

Here the analogy is remarkably perfect; not only between light and hope, and between darkness and fear; but between the rapid succession of light and shade, and the momentary influences of these opposite emotions: while, at the same time, the new image which is presented to us, recals one of the most pleasing and impressive incidents in rural scenery.

The foregoing observations suggest a reason why the principal stores of Fancy are commonly supposed to be borrowed from the material world. Wit has a more extensive province, and delights to display its power of prompt and unexpected combination over all the various classes of our ideas: but the favourite excursions of Fancy, are from intellectual and moral subjects to the appearances with which our senses are conversant. The truth is, that such allusions please more than any others in poetry. According to this limited idea of Fancy, it presupposes, where it is possessed in an eminent degree, an extensive observation of natural objects, and a mind susceptible of strong impressions from them. It is thus only that a stock of images can be acquired; and that these images will be ready to present themselves, whenever any analogous subject occurs. And hence probably it is, that poetical genius is almost always united with an exquisite sensibility to the beauties of nature.

Before leaving the subject of Fancy, it may not be improper to remark, that its two qualities are, liveliness and luxuriancy. The word *lively* refers to the quickness of the association. The word *rich* or *luxuriant*, to the variety of associated ideas.

IV. *Of Invention in the Arts and Sciences.*

To these powers of Wit and Fancy, that of Invention in the Arts and Sciences has a striking resemblance. Like them it implies a command over certain classes of ideas, which, in ordinary men, are not equally subject to the will: and like them, too, it is the result of acquired habits; and not the original gift of nature.

Of the process of the mind in scientific invention, I propose afterwards to treat fully, under the article of Reasoning; and I shall therefore confine myself at present to a few detached remarks upon some views of the subject which are suggested by the foregoing inquiries.

Before we proceed, it may be proper to take notice of the distinction between Invention and Discovery. The object of the former, as has been frequently remarked, is to produce something which had no existence before; that of the latter, to bring to light something which did exist, but which was concealed from common observation. Thus we say, Otto Guericke invented the air-pump; Sanctorius invented the thermometer; Newton and Gregory invented the reflecting telescope; Galileo discovered the solar spots; and Harvey discovered the circulation of the blood. It appears, therefore, that improvements in the Arts are properly called *in-*

ventions; and that facts brought to light by means of observation, are properly called *discoveries.*

Agreeable to this analogy, is the use which we make of these words, when we apply them to subjects purely intellectual. As truth is eternal and immutable, and has no dependence on our belief or disbelief of it, a person who brings to light a truth formerly unknown, is said to make a discovery. A person, on the other hand, who contrives a new method of discovering truth, is called an inventor. Pythagoras, we say, discovered the forty-seventh proposition of Euclid's first book; Newton discovered the binomial theorem: but he invented the method of prime and ultimate ratios; and he invented the method of fluxions.

In general, every advancement in knowledge is considered as a discovery; every contrivance by which we produce an effect, or accomplish an end, is considered as an invention. Discoveries in science, therefore, unless they are made by accident, imply the exercise of invention; and accordingly, the word *invention* is commonly used to express originality of genius in the Sciences, as well as in the Arts. It is in this general sense that I employ it in the following observations.

It was before remarked, that in every instance of invention, there is some new idea, or some new combination of ideas, which is brought to light by the inventor; and that, although this may sometimes happen, in a way which he is unable to explain, yet when a man possesses an habitual fertility of invention in any particular Art or Science, and can rely with confidence on his inventive powers, when-

ever he is called upon to exert them; he must have acquired, by previous habits of study, a command over those classes of his ideas, which are subservient to the particular effort that he wishes to make. In what manner this command is acquired, it is not possible, perhaps, to explain completely; but it appears to me to be chiefly in the two following ways. In the first place, by his habits of speculation, he may have arranged his knowledge in such a manner as may render it easy for him to combine, at pleasure, all the various ideas in his mind, which have any relation to the subject about which he is occupied: or, secondly, he may have learned by experience, certain general rules, by means of which, he can direct the train of his thoughts into those channels in which the ideas he is in quest of may be most likely to occur to him.

I. The former of these observations, I shall not stop to illustrate particularly, at present; as the same subject will occur afterwards, under the article of Memory. It is sufficient for my purpose, in this chapter, to remark, that as habits of speculation have a tendency to classify our ideas, by leading us to refer particular facts and particular truths to general principles; and as it is from an approximation and comparison of related ideas, that new discoveries in most instances result; the knowledge of the philosopher, even supposing that it is not more extensive, is arranged in a manner much more favourable to invention, than in a mind unaccustomed to system.

How much invention depends on a proper combination of the materials of our knowledge, appears

from the resources which occur to men of the lowest degree of ingenuity, when they are pressed by any alarming difficulty and danger; and from the unexpected exertions made by very ordinary characters, when called to situations which rouse their latent powers. In such cases, I take for granted, that necessity operates in producing invention, chiefly by concentrating the attention of the mind to one set of ideas; by leading us to view these in every light, and to combine them variously with each other. As the same idea may be connected with an infinite variety of others by different relations; it may, according to circumstances, at one time, suggest one of these ideas, and, at another time, a different one. When we dwell long on the same idea, we obtain all the others to which it is any way related; and thus are furnished with materials on which our powers of judgment and reasoning may be employed. The effect of the division of labour, in multiplying mechanical contrivances, is to be explained partly on the same principle. It limits the attention to a particular subject, and familiarises to the mind all the possible combinations of ideas which have any relation to it.

These observations suggest a remarkable difference between Invention and Wit. The former depends, in most instances, on a combination of those ideas, which are connected by the less obvious principles of association; and it may be called forth in almost any mind by the pressure of external circumstances. The ideas which must be combined, in order to produce the latter, are chiefly such as are associated by those slighter connexions

which take place when the mind is careless and disengaged. "If you have real wit," says Lord Chesterfield, "it will flow spontaneously, and you "need not aim at it; for in that case, the rule of "the gospel is reversed; and it will prove, seek "and you shall not find." Agreeably to this observation, wit is promoted by a certain degree of intoxication, which prevents the exercise of that attention, which is necessary for invention in matters of Science. Hence too it is, that those who have the reputation of Wits, are commonly men confident in their own powers, who allow the train of their ideas to follow, in a great measure, its natural course; and hazard, in company, every thing, good or bad, that occurs to them. Men of modesty and taste seldom attempt wit in a promiscuous society; or if they are forced to make such an exertion, they are seldom successful. Such men, however, in the circle of their friends, to whom they can unbosom themselves without reserve, are frequently the most amusing and the most interesting of companions; as the vivacity of their wit is tempered by a correct judgment, and refined manners; and as its effect is heightened by that sensibility and delicacy, with which we so rarely find it accompanied in the common intercourse of life.

When a man of wit makes an exertion to distinguish himself, his sallies are commonly too far fetched to please. He brings his mind into a state approaching to that of the inventor, and becomes rather ingenious than witty. This is often the case with the writers whom Johnson distinguishes by the name of the Metaphysical Poets.

Those powers of invention, which necessity occasionally calls forth in uncultivated minds, some individuals possess habitually. The related ideas which, in the case of the former, are brought together by the slow efforts of attention and recollection, present themselves to the latter, in consequence of a more systematical arrangement of their knowledge. The instantaneousness with which such remote combinations are effected, sometimes appear so wonderful, that we are apt to ascribe it to something like inspiration; but it must be remembered, that when any subject strongly and habitually occupies the thoughts, it gives us an interest in the observation of the most trivial circumstance which we suspect to have any relation to it, however distant; and by thus rendering the common objects and occurrences which the accidents of life present to us, subservient to one particular employment of the intellectual powers, establishes in the memory a connexion between our favourite pursuit, and all the materials with which experience and reflection have supplied us for the farther prosecution of it.

II. I observed, in the second place, that invention may be facilitated by general rules, which enable the inventor to direct the train of his thoughts into particular channels. These rules (to ascertain which, ought to be one principal object of the logician) will afterwards fall under my consideration, when I come to examine those intellectual processes which are subservient to the discovery of truth. At present, I shall confine myself to a few general remarks; in stating which I have no other

aim than to shew, to how great a degree invention depends on cultivation and habit, even in those sciences in which it is generally supposed that every thing depends on natural genius.

When we consider the geometrical discoveries of the ancients, in the form in which they are exhibited in the greater part of the works which have survived to our times, it is seldom possible for us to trace the steps by which they were led to their conclusions: and, indeed, the objects of this science are so unlike those of all others, that it is not unnatural for a person when he enters on the study, to be dazzled by its novelty, and to form an exaggerated conception of the genius of those men who first brought to light such a variety of truths, so profound and so remote from the ordinary course of our speculations. We find, however, that even at the time when the ancient analysis was unknown to the moderns; such mathematicians as had attended to the progress of the mind in the discovery of truth, concluded *a priori*, that the discoveries of the Greek geometers did not, at first, occur to them in the order in which they are stated in their writings. The prevailing opinion was, that they had possessed some secret method of investigation, which they carefully concealed from the world; and that they published the result of their labours in such a form, as they thought would be most likely to excite the admiration of their readers. "O quam bene foret," says *Petrus Nonius*, "si qui "in scientiis mathematicis scripserint authores, "scripta reliquissent inventa sua eadem methodo, "et per eosdem discursus, quibus ipsi in ea pri-

"mum inciderunt; et non, ut in mechanica lo-
"quitur Aristoteles de artificibus, qui nobis foris
"ostendunt suas quas fecerint machinas, sed arti-
"ficium abscondunt, ut magis appareant admira-
"biles. Est utique inventio in arte qualibet diversa
"multum a traditione: neque putandum est plu-
"rimas Euclidis et Archimedis propositiones fuisse
"ab illis ea via inventas qua nobis illi ipsas tradi-
"derunt."* The revival of the ancient analysis, by some late mathematicians in this country, has, in part, justified these remarks, by shewing to how great a degree the inventive powers of the Greek geometers were aided by that method of investigation; and by exhibiting some striking specimens of address in the practical application of it.

The solution of problems, indeed, it may be said, is but one mode in which mathematical invention may be displayed. The discovery of new truths is what we chiefly admire in an original genius; and the method of analysis gives us no satisfaction with respect to the process by which they are obtained.

To remove this difficulty completely, by explaining all the various ways in which new theorems may be brought to light, would lead to inquiries foreign to this work. In order, however, to render the process of the mind, on such occasions, a little less mysterious than it is commonly supposed to be; it may be proper to remark, that the most copious source of discoveries is the investigation of problems; which seldom fails (even although we should

* See some other passages to the same purpose, quoted from different writers, by Dr. Simson, in the preface to his Restoration of the Loci Plani of Appollonius Pergæus. Glasg. 1749.

not succeed in the attainment of the object which we have in view) to exhibit to us some relations formerly unobserved among the quantities which are under consideration. Of so great importance is it to concentrate the attention to a particular subject, and to check that wandering and dissipated habit of thought, which, in the case of most persons, renders their speculations barren of any profit either to themselves or to others. Many theorems, too, have been suggested by analogy; many have been investigated from truths formerly known by altering or by generalising the hypothesis; and many have been obtained by a species of induction. An illustration of these various processes of the mind would not only lead to new and curious remarks, but would contribute to diminish that blind admiration of original genius, which is one of the chief obstacles to the improvement of science.

The history of natural philosophy, before and after the time of Lord Bacon, affords another proof, how much the powers of invention and discovery may be assisted by the study of method: and in all the sciences, without exception, whoever employs his genius with a regular and habitual success, plainly shews, that it is by means of general rules that his inquiries are conducted. Of these rules, there may be many which the inventor never stated to himself in words; and, perhaps, he may even be unconscious of the assistance which he derives from them; but their influence on his genius appears unquestionably from the uniformity with which it proceeds; and in proportion as they can be ascertained by his own speculations, or collected by the

logician from an examination of his researches, similar powers of invention will be placed within the reach of other men, who apply themselves to the same study.

The following remarks, which a truly philosophical artist has applied to painting, may be extended, with some trifling alterations, to all the different employments of our intellectual powers.

"What we now call *genius*, begins, not where "rules, abstractedly taken, end; but where known, "vulgar, and trite rules have no longer any place. "It must of necessity be, that works of genius, as "well as every other effect, as it must have its "cause, must likewise have its rules; it cannot be "by chance, that excellencies are produced with "any constancy, or any certainty, for this is not "the nature of chance; but the rules by which "men of extraordinary parts, and such as are "called men of genius, work, are either such as "they discover by their own peculiar observation, "or of such a nice texture as not easily to admit "handling or expressing in words.

"Unsubstantial, however, as these rules may "seem, and difficult as it may be to convey them "in writing, they are still seen and felt in the "mind of the artist; and he works from them with "as much certainty, as if they were embodied, as "I may say, upon paper. It is true, these refined "principles cannot be always made palpable, like "the more gross rules of art; yet it does not follow, "but that the mind may be put in such a train, "that it shall perceive, by a kind of scientific

"sense, that propriety, which words can but very "feebly suggest."*

SECTION V.

Application of the Principles stated in the foregoing Sections of this Chapter, to explain the Phenomena of Dreaming.

With respect to the Phenomena of Dreaming, three different questions may be proposed. First; What is the state of the *mind* in sleep? or, in other words, what faculties then continue to operate, and what faculties are then suspended? Secondly; how far do our dreams appear to be influenced by our bodily sensations; and in what respects do they vary, according to the different conditions of the body in health, and in sickness? Thirdly; what is the change which sleep produces on those parts of the *body*, with which our mental operations are more immediately connected; and how does this change operate, in diversifying, so remarkably, the phenomena which our minds then exhibit, from those of which we are conscious in our waking hours? Of these three questions, the first belongs to the Philosophy of the Human Mind; and it is to this question that the following inquiry is almost entirely confined. The second is more particularly interesting to the medical inquirer, and does not properly fall under the plan of this work. The third seems to me to relate to a subject, which is placed beyond the reach of the human faculties.

* Discourses by Sir Joshua Reynolds.

It will be granted, that, if we could ascertain the state of the mind in sleep, so as to be able to resolve the various phenomena of dreaming into a smaller number of general principles; and still more, if we could resolve them into one general fact; we should be advanced a very important step in our inquiries upon this subject; even although we should find it impossible to shew, in what manner this change in the state of the mind results from the change which sleep produces in the state of the body. Such a step would at least gratify, to a certain extent, that disposition of our nature which prompts us to ascend from particular facts to general laws; and which is the foundation of all our philosophical researches; and, in the present instance, I am inclined to think, that it carries us as far as our imperfect faculties enable us to proceed.

In conducting this inquiry with respect to the state of the mind in sleep, it seems reasonable to expect, that some light may be obtained from an examination of the circumstances which accelerate or retard its approach; for when we are disposed to rest, it is natural to imagine, that the state of the mind approaches to its state in sleep, more nearly, than when we feel ourselves alive and active, and capable of applying all our various faculties to their proper purposes.

In general, it may be remarked, that the approach of sleep is accelerated by every circumstance which diminishes or suspends the exercise of the mental powers; and is retarded by every thing which has a contrary tendency. When we wish for sleep, we

naturally endeavour to withhold, as much as possible, all the active exertions of the mind, by disengaging our attention from every interesting subject of thought. When we are disposed to keep awake, we naturally fix our attention on some subject which is calculated to afford employment to our intellectual powers, or to rouse and exercise the active principles of our nature.''

It is well known, that there is a particular class of sounds which compose us to sleep. The hum of bees; the murmur of a fountain; the reading of an uninteresting discourse; have this tendency in a remarkable degree. If we examine this class of sounds, we shall find that it consists wholly of such as are fitted to withdraw the attention of the mind from its own thoughts; and are, at the same time, not sufficiently interesting to engage its attention to themselves.

It is also matter of common observation, that children and persons of little reflexion, who are chiefly occupied about sensible objects, and whose mental activity is, in a great measure, suspended, as soon as their perceptive powers are unemployed; find it extremely difficult to continue awake, when they are deprived of their usual engagements. The same thing has been remarked of savages, whose time, like that of the lower animals, is almost completely divided between sleep and their bodily exertions. *

* "The existence of the Negro slaves in America, appears to "participate more of sensation than reflection. To this must be "ascribed, their disposition to sleep when abstracted from their "diversions, and unemployed in their labour. An animal whose

From a consideration of these facts, it seems reasonable to conclude, that in sleep those operations of the mind are suspended, which depend on our volition; for if it be certain, that before we fall asleep, we must withhold, as much as we are able, the exercise of all our different powers; it is scarcely to be imagined, that, as soon as sleep commences, these powers should again begin to be exerted. The more probable conclusion is, that when we are desirous to procure sleep, we bring both mind and body, as nearly as we can, into that state in which they are to continue after sleep commences. The difference, therefore, between the state of the mind when we are inviting sleep, and when we are actually asleep, is this; that in the former case, although its active exertions be suspended, we can renew them, if we please. In the other case, the will loses its influence over all our powers both of mind and body; in consequence of some physical alteration in the system, which we shall never, probably, be able to explain.

In order to illustrate this conclusion a little farther, it may be proper to remark, that if the suspension of our voluntary operations in sleep be admitted as a fact, there are only two suppositions which can be formed concerning its cause. The one is, that the power of volition is suspended; the other, that the will loses its influence over those faculties of the mind, and those members of the body, which, during our waking hours, are sub-

"body is at rest, and who does not reflect, must be disposed to "sleep of course." *Notes on Virginia, by Mr.* JEFFERSON, p. 225.

jected to its authority. If it can be shewn, then, that the former supposition is not agreeable to fact, the truth of the latter seems to follow as a necessary consequence.

1. That the power of volition is not suspended during sleep, appears from the efforts which we are conscious of making while in that situation. We dream, for example, that we are in danger; and we attempt to call out for assistance. The attempt, indeed, is, in general, unsuccessful; and the sounds which we emit, are feeble and indistinct; but this only confirms, or, rather, is a necessary consequence of the supposition, that, in sleep, the connexion between the will and our voluntary operations, is disturbed, or interrupted. The continuance of the power of volition is demonstrated by the effort, however ineffectual.

In like manner, in the course of an alarming dream, we are sometimes conscious of making an exertion to save ourselves, by flight, from an apprehended danger; but in spite of all our efforts we continue in bed. In such cases, we commonly dream, that we are attempting to escape, and are prevented by some external obstacle; but the fact seems to be, that the body is, at that time, not subject to the will. During the disturbed rest which we sometimes have when the body is indisposed, the mind appears to retain some power over it; but as, even in these cases, the motions which are made, consist rather of a general agitation of the whole system, than of the regular exertion of a particular member of it, with a view to produce a certain effect; it is reasonable to conclude, that, in

perfectly sound sleep, the mind, although it retains the power of volition, retains no influence whatever over the bodily organs.

In that particular condition of the system, which is known by the name of *incubus*, we are conscious of a total want of power over the body: and, I believe, the common opinion is, that it is this want of power which distinguishes the *incubus* from all the other modifications of sleep. But the more probable supposition seems to be, that every species of sleep is accompanied with a suspension of the faculty of voluntary motion; and that the *incubus* has nothing peculiar in it but this, that the uneasy sensations which are produced by the accidental posture of the body, and which we find it impossible to remove by our own efforts, render us distinctly conscious of our incapacity to move. One thing is certain, that the instant of our awaking, and of our recovering the command of our bodily organs, is one and the same.

2. The same conclusion is confirmed by a different view of the subject. It is probable, as was already observed, that when we are anxious to procure sleep, the state into which we naturally bring the mind, approaches to its state after sleep commences. Now it is manifest, that the means which nature directs us to employ on such occasions, is not to suspend the power of volition, but to suspend the exertion of those powers whose exercise depends on volition. If it were necessary that volition should be suspended before we fall asleep, it would be impossible for us, by our own efforts, to hasten the moment of rest. The very

supposition of such efforts is absurd; for it implies a continued will to suspend the acts of the will.

According to the foregoing doctrine with respect to the state of the mind in sleep, the effect which is produced on our mental operations, is strikingly analogous to that which is produced on our bodily powers. From the observations which have been already made, it is manifest that in sleep, the body is, in a very inconsiderable degree, if at all, subject to our command. The vital and involuntary motions, however, suffer no interruption, but go on as when we are awake, in consequence of the operation of some cause unknown to us. In like manner, it would appear, that those operations of the mind which depend on our volition are suspended; while certain other operations are, at least, occasionally, carried on. This analogy naturally suggests the idea, that *all* our mental operations, which are independent of our will, may continue during sleep; and that the phenomena of dreaming may, perhaps, be produced by these, diversified in their apparent effects, in consequence of the suspension of our voluntary powers.

If the appearances which the mind exhibits during sleep, are found to be explicable on this general principle, it will possess all the evidence which the nature of the subject admits of.

It was formerly shewn, that the train of thought in the mind does not depend *immediately* on our will, but is regulated by certain general laws of association. At the same time, it appeared, that among the various subjects which thus spontaneously present themselves to our notice, we have

the power of singling out any one that we chuse to consider, and of making it a particular object of attention; and that by doing so, we not only can stop the train that would otherwise have succeeded, but frequently can divert the current of our thoughts into a new channel. It also appeared, that we have a power (which may be much improved by exercise) of recalling past occurrences to the memory, by a voluntary effort of recollection.

The *indirect* influence which the mind thus possesses over the train of its thoughts is so great, that during the whole time we are awake, excepting in those cases in which we fall into what is called a reverie, and suffer our thoughts to follow their natural course, the order of their succession is always regulated more or less by the will. The will, indeed, in regulating the train of thought, can operate only (as I already shewed) by availing itself of the established laws of association; but still it has the power of rendering this train very different from what it would have been, if these laws had taken place without its interference.

From these principles, combined with the general fact which I have endeavoured to establish, with respect to the state of the mind in sleep, two obvious consequences follow: First, That when we are in this situation, the succession of our thoughts, in so far as it depends on the laws of association, may be carried on by the operation of the same unknown causes by which it is produced while we are awake; and; Secondly, that the order of our thoughts, in these two states of the mind, must be very different;

inasmuch as, in the one, it depends solely on the laws of association; and in the other, on these laws combined with our own voluntary exertions.

In order to ascertain how far these conclusions are agreeable to truth, it is necessary to compare them with the known phenomena of dreaming. For which purpose, I shall endeavour to shew, First, That the succession of our thoughts in sleep, is regulated by the same general laws of association, to which it is subjected while we are awake; and, Secondly, That the circumstances which discriminate dreaming from our waking thoughts, are such as must necessarily arise from the suspension of the influence of the will.

I. That the succession of our thoughts in sleep, is regulated by the same general laws of association, which influence the mind while we are awake, appears from the following considerations.

1. Our dreams are frequently suggested to us by bodily sensations; and with these it is well known, from what we experience while awake, that particular ideas are frequently very strongly associated. I have been told by a friend, that having occasion, in consequence of an indisposition, to apply a bottle of hot water to his feet when he went to bed, he dreamed that he was making a journey to the top of Mount Ætna, and that he found the heat of the ground almost insupportable. Another person, having a blister applied to his head, dreamed that he was scalped by a party of Indians. I believe every one who is in the habit of dreaming, will recollect instances, in his own case, of a similar nature.

2. Our dreams are influenced by the prevailing

temper of the mind; and vary, in their complexion, according as our habitual disposition, at the time, inclines us to cheerfulness or to melancholy. Not that this observation holds without exception; but it holds so generally, as must convince us, that the state of our spirits has some effect on our dreams, as well as on our waking thoughts. Indeed, in the latter case, no less than in the former, this effect may be counteracted, or modified by various other circumstances.

After having made a narrow escape from any alarming danger, we are apt to awake, in the course of our sleep, with sudden startings; imagining that we are drowning, or on the brink of a precipice. A severe misfortune, which has affected the mind deeply, influences our dreams in a similar way; and suggests to us a variety of adventures, analogous, in some measure, to that event from which our distress arises. Such, according to Virgil, were the dreams of the forsaken Dido.

——— "Agit ipse furentem,
"In somnis ferus Æneas; semperque relinqui,
"Sola sibi; semper longam incomitata videtur,
"Ire viam, et Tyrios desertâ quærere terrâ."

3. Our dreams are influenced by our prevailing habits of association while awake.

In a former part of this work, I considered the extent of that power which the mind may acquire over the train of its thoughts; and I observed, that those intellectual diversities among men, which we commonly refer to peculiarities of genius, are, at least in a great measure, resolvable into differences in their habits of association. One man possesses a rich

and beautiful fancy, which is at all times obedient to his will. Another possesses a quickness of recollection, which enables him, at a moment's warning, to bring together all the results of his past experience, and of his past reflections, which can be of use for illustrating any proposed subject. A third can, without effort, collect his attention to the most abstract questions in philosophy; can perceive, at a glance, the shortest and the most effectual process for arriving at the truth; and can banish from his mind every extraneous idea, which fancy or casual association may suggest, to distract his thoughts, or to mislead his judgment. A fourth unites all these powers in a capacity of perceiving truth with an almost intuitive rapidity; and in an eloquence which enables him to command, at pleasure, whatever his memory and his fancy can supply, to illustrate and to adorn it. The occasional exercise which such men make of their powers, may undoubtedly be said, in one sense, to be unpremeditated or unstudied; but they all indicate previous *habits* of meditation or study, as unquestionably, as the dexterity of the expert accountant, or the rapid execution of the professional musician.

From what has been said, it is evident, that a train of thought which, in one man, would require a painful effort of study, may, in another, be almost spontaneous: nor is it to be doubted, that the reveries of studious men, even when they allow, as much as they can, their thoughts to follow their own course, are more or less connected together by those principles of association, which their favourite pursuits tend more particularly to strengthen.

The influence of the same habits may be traced distinctly in sleep. There are probably few mathematicians, who have not dreamed of an interesting problem, and who have not even fancied that they were prosecuting the investigation of it with much success. They whose ambition leads them to the study of eloquence, are frequently conscious, during sleep, of a renewal of their daily occupations; and sometimes feel themselves possessed of a fluency of speech, which they never experienced before. The Poet, in his dreams, is transported into Elysium, and leaves the vulgar and unsatisfactory enjoyments of humanity, to dwell in those regions of enchantment and rapture, which have been created by the divine imaginations of Virgil and of Tasso.

"And hither Morpheus sent his kindest dreams,
"Raising a world of gayer tinct and grace;
"O'er which were shadowy cast Elysian gleams,
"That play'd, in waving lights, from place to place,
"And shed a roseate smile on Nature's face.
"Not Titian's pencil e'er could so array,
"So fleece with clouds the pure etherial space;
"Ne could it e'er such melting forms display,
"As loose on flowery beds all languishingly lay.

"No, fair illusions! artful phantoms, no!
"My muse will not attempt your fairy land:
"She has no colours, that like your's can glow;
"To catch your vivid scenes, too gross her hand." *

As a farther proof that the succession of our thoughts in dreaming, is influenced by our prevailing habits of association; it may be remarked, that the scenes and occurrences which most fre-

* Castle of Indolence.

quently present themselves to the mind while we are asleep, are the scenes and occurrences of childhood and early youth. The facility of association is then much greater than in more advanced years; and although, during the day, the memory of the events thus associated, may be banished by the objects and pursuits which press upon our senses, it retains a more permanent hold of the mind than any of our subsequent acquisitions: and, like the knowledge which we possess of our mother tongue, is, as it were, interwoven and incorporated with all its most essential habits. Accordingly, in old men, whose thoughts are, in a great measure, disengaged from the world, the transactions of their middle age, which once seemed so important, are often obliterated; while the mind dwells, as in a dream, on the sports and the companions of their infancy.

I shall only observe farther, on this head, that in our dreams, as well as when awake, we occasionally make use of words as an instrument of thought. Such dreams, however, do not affect the mind with such emotions of pleasure and of pain, as those in which the imagination is occupied with particular objects of sense. The effect of philosophical studies, in habituating the mind to the almost constant employment of this instrument, and, of consequence, its effect in weakening the imagination, was formerly remarked. If I am not mistaken, the influence of these circumstances may also be traced in the history of our dreams; which, in youth commonly involve, in a much greater degree, the exercise of imagination; and affect the mind with much more powerful emotions, than when we begin

to employ our maturer faculties in more general and abstract speculations.

II. From these different observations, we are authorised to conclude, that the same laws of association which regulate the train of our thoughts while we are awake, continue to operate during sleep. I now proceed to consider, how far the circumstances which discriminate dreaming from our waking thoughts, correspond with those which might be expected to result from the suspension of the influence of the will.

1. If the influence of the will be suspended during sleep, all our voluntary operations, such as recollection, reasoning, &c. must also be suspended.

That this really is the case, the extravagance and inconsistency of our dreams are sufficient proofs. We frequently confound together times and places the most remote from each other; and, in the course of the same dream, conceive the same person as existing in different parts of the world. Sometimes we imagine ourselves conversing with a dead friend, without remembering the circumstance of his death, although, perhaps, it happened but a few days before, and affected us deeply. All this proves clearly, that the subjects which then occupy our thoughts, are such as present themselves to the mind spontaneously; and that we have no power of employing our reason in comparing together the different parts of our dreams; or even of exerting an act of recollection, in order to ascertain how far they are consistent and possible.

The processes of reasoning in which we sometimes fancy ourselves to be engaged during sleep, furnish no

exception to the foregoing observation; for although every such process, the first time we form it, implies volition; and, in particular, implies a recollection of the premises, till we arrive at the conclusion; yet when a number of truths have been often presented to us as necessarily connected with each other, this series may afterwards pass through the mind, according to the laws of association, without any more activity on our part, than in those trains of thought which are the most loose and incoherent. Nor is this mere theory. I may venture to appeal to the consciousness of every man accustomed to dream, whether his reasonings during sleep do not seem to be carried on without any exertion of his will; and with a degree of facility, of which he was never conscious while awake. Mr. Addison, in one of his Spectators, has made this observation; and his testimony, in the present instance, is of the greater weight, that he had no particular theory on the subject to support. "There is not," (says he,) "a more painful action of the mind than invention, "yet in dreams it works with that ease and activity, "that we are not sensible when the faculty is em-"ployed. For instance, I believe every one, some "time or other, dreams that he is reading papers, "books, or letters; in which case the invention "prompts so readily, that the mind is imposed on, "and mistakes its own suggestions for the com-"position of another."*

2. If the influence of the will during sleep be suspended, the mind will remain as passive, while its thoughts change from one subject to another, as

* No. 487.

it does during our waking hours, while different perceptible objects are presented to our senses.

Of this passive state of the mind in our dreams, it is unnecessary to multiply proofs; as it has always been considered as one of the most extraordinary circumstances with which they are accompanied. If our dreams, as well as our waking thoughts, were subject to the will, is it not natural to conclude, that in the one case, as well as in the other, we would endeavour to banish, as much as we could, every idea which had a tendency to disturb us; and detain those only which we found to be agreeable? So far, however, is this power over our thoughts from being exercised, that we are frequently oppressed, in spite of all our efforts to the contrary, with dreams which affect us with the most painful emotions. And, indeed, it is matter of vulgar remark, that our dreams are, in every case, involuntary on our part; and that they appear to be obtruded on us by some external cause. This fact appeared so unaccountable to the late Mr. Baxter, that it gave rise to his very whimsical theory, in which he ascribes dreams to the immediate influence of separate spirits on the mind.

3. If the influence of the will be suspended during sleep, the *conceptions* which we then form of sensible objects, will be attended with a belief of their real existence, as much as the *perception* of the same objects is while we are awake.

In treating of the power of Conception, I formerly observed, that our belief of the separate and independent existence of the objects of our perceptions, is the result of experience; which teaches us, that these perceptions do not depend on our

will. If I open my eyes, I cannot prevent myself from seeing the prospect before me. The case is different with respect to our conceptions. While they occupy the mind, to the exclusion of every thing else, I endeavoured to shew, that they are always accompanied with belief; but as we can banish them from the mind, during our waking hours, at pleasure; and as the momentary belief which they produce, is continually checked by the surrounding objects of our perceptions, we learn to consider them as fictions of our own creation; and, excepting in some accidental cases, pay no regard to them in the conduct of life. If the doctrine, however, formerly stated with respect to conception be just, and if, at the same time it be allowed, that sleep suspends the influence of the will over the train of our thoughts, we should naturally be led to expect, that the same belief which accompanies perception while we are awake, should accompany the conceptions which occur to us in our dreams. It is scarcely necessary for me to remark, how strikingly this conclusion coincides with acknowledged facts.

May it not be considered as some confirmation of the foregoing doctrine, that when opium fails in producing complete sleep, it commonly produces *one* of the effects of sleep, by suspending the activity of the mind, and throwing it into a reverie; and that while we are in this state, our conceptions frequently affect us nearly in the same manner, as if the objects conceived were present to our senses?*

* See the Baron de Tott's Account of the Opium-takers at Constantinople.

Another circumstance with respect to our conceptions during sleep, deserves our notice. As the subjects which we then think upon, occupy the mind exclusively; and as the attention is not diverted by the objects of our external senses, our conceptions must be proportionably lively and steady. Every person knows how faint the conception is which we form of any thing with our eyes open, in comparison of what we can form with our eyes shut: and that in proportion as we can suspend the exercise of all our other senses, the liveliness of our conception increases. To this cause is to be ascribed, in part, the effect which the dread of spirits in the dark, has on some persons, who are fully convinced in speculation, that their apprehensions are groundless; and to this also is owing, the effect of any accidental perception in giving them a momentary relief from their terrors. Hence the remedy which nature points out to us, when we find ourselves overpowered by imagination. If every thing around us be silent, we endeavour to create a noise, by speaking aloud, or beating with our feet; that is, we strive to divert the attention from the subjects of our imagination, by presenting an object to our powers of perception. The conclusion which I draw from these observations is, that, as there is no state of the body in which our perceptive powers are so totally unemployed as in sleep, it is natural to think, that the objects which we conceive or imagine, must then make an impression on the mind, beyond comparison greater, than any thing of which we can have experience while awake.

From these principles may be derived a simple,

and, I think, a satisfactory explanation of what some writers have represented as the most mysterious of all the circumstances connected with dreaming; the inaccurate estimates we are apt to form of Time, while we are thus employed;—an inaccuracy which sometimes extends so far, as to give to a single instant, the appearance of hours, or perhaps of days. A sudden noise, for example, suggests a dream connected with that perception; and, the moment afterwards, this noise has the effect of awaking us; and yet, during that momentary interval, a long series of circumstances has passed before the imagination. The story quoted by Mr. Addison * from the Turkish Tales, of the miracle wrought by a Mahometan Doctor, to convince an infidel Sultan, is, in such cases, nearly verified.

The facts I allude to at present are generally explained by supposing, that, in our dreams, the rapidity of thought is greater than while we are awake:—but there is no necessity for having recourse to such a supposition. The rapidity of thought is, at all times, such, that in the twinkling of an eye, a crowd of ideas may pass before us, to which it would require a long discourse to give utterance; and transactions may be conceived, which it would require days to realize. But, in sleep, the conceptions of the mind are mistaken for realities; and therefore, our estimates of Time will be formed, not according to our experience of the rapidity of thought, but according to our experience of the time requisite for realizing what we conceive. Something perfectly analogous to this may be remarked in the percep-

* Spectator, No. 94.

tions we obtain by the sense of sight. When I look into a shew-box, where the deception is imperfect, I see only a set of paltry dawbings of a few inches diameter; but, if the representation be executed with so much skill, as to convey to me the idea of a distant prospect, every object before me swells in its dimensions, in proportion to the extent of space which I conceive it to occupy; and what seemed before to be shut up within the limits of a small wooden frame, is magnified, in my apprehension, to an immense landscape of woods, rivers, and mountains.

The phenomena which we have hitherto explained, take place when sleep seems to be complete; that is, when the mind loses its influence over *all* those powers whose exercise depends on its will. There are, however, many cases in which sleep seems to be partial; that is, when the mind loses its influence over *some* powers, and retains it over others. In the case of the *somnambuli*, it retains its power over the limbs, but it possesses no influence over its own thoughts, and scarcely any over the body; excepting those particular members of it which are employed in walking. In madness, the powers of the will over the body remains undiminished, while its influence in regulating the train of thought is in a great measure suspended; either in consequence of a particular idea, which engrosses the attention, to the exclusion of every thing else, and which we find it impossible to banish by our efforts; or in consequence of our thoughts succeeding each other with such rapidity, that we are unable to stop the train. In both of these kinds of madness, it is worthy of remark, that the conceptions or imaginations of the

mind becoming independent of our will, they are apt to be mistaken for actual perceptions, and to affect us in the same manner.

By means of this supposition of a partial sleep, any apparent exceptions which the history of dreams may afford to the general principles already stated, admit of an easy explanation.

Upon reviewing the foregoing observations, it does not occur to me, that I have in any instance transgressed those rules of philosophising, which, since the time of Newton, are commonly appealed to, as the tests of sound investigation. For, in the first place, I have not supposed any causes which are not known to exist; and secondly, I have shewn, that the phenomena under our consideration are necessary consequences of the causes to which I have referred them. I have not supposed that the mind acquires in sleep, any new faculty of which we are not conscious while awake; but only (what we know to be a fact) that it retains some of its powers, while the exercise of others is suspended: and I have deduced synthetically, the known phenomena of dreaming, from the operation of a particular class of our faculties, unconnected by the operation of another. I flatter myself, therefore, that this inquiry will not only throw some light on the state of the mind in sleep; but that it will have a tendency to illustrate the mutual adaptation and subserviency which exists among the different parts of our constitution, when we are in complete possession of all the faculties and principles which belong to our nature. *

* See Note [O].

CHAPTER FIFTH.

PART SECOND.

Of the Influence of Association on the Intellectual and on the Active Powers.

SECTION I.

Of the Influence of casual Associations on our speculative Conclusions.

The Association of ideas has a tendency to warp our speculative opinions chiefly in the three following ways :

First, by blending together in our apprehensions, things which are really distinct in their nature ; so as to introduce perplexity and error into every process of reasoning in which they are involved.

Secondly, by misleading us in those anticipations of the future from the past, which our constitution disposes us to form, and which are the great foundation of our conduct in life.

Thirdly, by connecting in the mind erroneous opinions, with truths which irresistibly command our assent, and which we feel to be of importance to human happiness.

A short illustration of these remarks, will throw light on the origin of various prejudices ; and may,

perhaps, suggest some practical hints with respect to the conduct of the understanding.

I. I formerly had occasion to mention several instances of very intimate associations formed between two ideas which have no necessary connexion with each other. One of the most remarkable is, that which exists in every person's mind between the notions of *colour* and of *extension*. The former of these words expresses (at least in the sense in which we commonly employ it) a sensation in the mind; the latter denotes a quality of an external object; so that there is, in fact, no more connexion between the two notions than between those of pain and of solidity*; and yet, in consequence of our always perceiving extension, at the same time at which the sensation of colour is excited in the mind, we find it impossible to think of that sensation, without conceiving extension along with it.

Another intimate association is formed in every mind between the ideas of *space* and of *time*. When we think of an interval of duration, we always conceive it as something analogous to a line, and we apply the same language to both subjects. We speak of a *long* and *short time*, as well as of a *long* and *short distance*; and we are not conscious of any metaphor in doing so. Nay, so very perfect does the analogy appear to us, that Boscovich mentions it as a curious circumstance, that extension should have three dimensions, and duration only one.

This apprehended analogy seems to be founded wholly on an association between the ideas of space and of time, arising from our always measuring the

* See Note [P].

one of these quantities by the other. We measure time by motion, and motion by extension. In an hour, the hand of the clock moves over a certain space; in two hours, over double the space; and so on. Hence the ideas of space and of time become very intimately united, and we apply to the latter the words *long* and *short*, *before* and *after*, in the same manner as to the former.

The apprehended analogy between the relation which the different notes in the scale of music bear to each other, and the relation of superiority and inferiority, in respect of position, among material objects, arises also from an accidental association of ideas.

What this association is founded upon, I shall not take upon me to determine; but that it is the effect of accident, appears clearly from this, that it has not only been confined to particular ages and nations; but is the very reverse of an association which was once equally prevalent. It is observed by Dr. Gregory, in the preface to his edition of Euclid's works, that the more ancient of the Greek writers looked upon grave sounds as high, and acutes ones as low; and that the present mode of expression on that subject, was an innovation introduced at a later period.*

In the instances which have now been mentioned, our habits of combining the notions of two things, become so strong, that we find it impossible to think of the one, without thinking at the same time of the other. Various other examples of the same species of combination, although, perhaps,

* See Note [Q].

not altogether so striking in degree, might easily be collected from the subjects about which our metaphysical speculations are employed. The *sensations*, for instance, which are excited in the mind by external objects, and the *perceptions* of material qualities which follow these sensations, are to be distinguished from each other only by long habits of patient reflexion. A clear conception of this distinction may be regarded as the key to all Dr. Reid's reasonings concerning the process of nature in perception; and, till it has once been rendered familiar to the reader, a great part of his writings must appear unsatisfactory and obscure.—In truth, our progress in the philosophy of the human mind depends much more on that severe and discriminating judgment, which enables us to separate ideas which nature or habit have immediately combined, than on acuteness of reasoning or fertility of invention. And hence it is, that metaphysical studies are the best of all preparations for those philosophical pursuits which relate to the conduct of life. In none of these do we meet with casual combinations so intimate and indissoluble as those which occur in metaphysics; and he who has been accustomed to such discriminations as this science requires, will not easily be imposed on by that confusion of ideas, which warps the judgments of the multitude in moral, religious, and political inquiries.

From the facts which have now been stated, it is easy to conceive the manner in which the association of ideas has a tendency to mislead the judgment, in the first of the three cases already enumerated.

When two subjects of thought are so intimately connected together in the mind, that we find it scarcely possible to consider them apart; it must require no common efforts of attention, to conduct any process of reasoning which relates to either. I formerly took notice of the errors to which we are exposed in consequence of the ambiguity of *words;* and of the necessity of frequently checking and correcting our general reasonings by means of particular examples; but in the cases to which I allude at present, there is (if I may use the expression) an ambiguity of *things;* so that even when the mind is occupied about particulars, it finds it difficult to separate the proper objects of its attention from others with which it has been long accustomed to blend them. The cases, indeed, in which such obstinate and invincible associations are formed among different subjects of thought, are not very numerous, and occur chiefly in our metaphysical researches; but in every mind, casual combinations of an inferior degree of strength, have an habitual effect in disturbing the intellectual powers, and are not to be conquered without persevering exertions, of which few men are capable. The obvious effects which this tendency to combination produces on the judgment, in confounding together those ideas which it is the province of the metaphysician to distinguish, sufficiently illustrate the mode of its operation in those numerous instances, in which its influence, though not so complete and striking, is equally real, and far more dangerous.

II. The association of ideas is a source of speculative error, by misleading us in those anticipations

of the future from the past, which are the foundation of our conduct in life.

The great object of philosophy, as I have already remarked more than once, is to ascertain the laws which regulate the succession of events, both in the physical and moral worlds; in order that, when called upon to act in any particular combination of circumstances, we may be enabled to anticipate the probable course of nature from our past experience, and to regulate our conduct accordingly.

As a knowledge of the established connexions among events, is the foundation of sagacity and of skill, both in the practical arts, and in the conduct of life, nature has not only given to all men a strong disposition to remark, with attention and curiosity, those phenomena which have been observed to happen nearly at the same time; but has beautifully adapted to the uniformity of her own operations, the laws of association in the human mind. By rendering *contiguity in time* one of the strongest of our associating principles, she has conjoined together in our thoughts, the same events which we have found conjoined in our experience, and has thus accommodated (without any effort on our part) the order of our ideas to that scene in which we are destined to act.

The degree of experience which is necessary for the preservation of our animal existence, is acquired by all men without any particular efforts of study. The laws of nature, which it is most material for us to know, are exposed to the immediate observation of our senses; and establish, by means of the principle of association, a corresponding order in our

thoughts, long before the dawn of reason and reflexion; or at least long before that period of childhood, to which our recollection afterwards extends.

This tendency of the mind to associate together events which have been presented to it nearly at the same time; although, on the whole, it is attended with infinite advantages, yet, like many other principles of our nature, may occasionally be a source of inconvenience, unless we avail ourselves of our reason and of our experience in keeping it under proper regulation. Among the various phenomena which are continually passing before us, there is a great proportion, whose vicinity in time does not indicate a constancy of conjunction; and unless we be careful to make the distinction between these two classes of connexions, the order of our ideas will be apt to correspond with the one as well as with the other; and our unenlightened experience of the past, will fill the mind, in numberless instances, with vain expectations, or with groundless alarms, concerning the future. This disposition to confound together accidental and permanent connexions, is one great source of popular superstitions. Hence the regard which is paid to unlucky days; to unlucky colours; and to the influence of the planets; apprehensions, which render human life, to many, a continued series of absurd terrors. Lucretius compares them to those which children feel, from an idea of the existence of spirits in the dark.

> "Ac veluti pueri trepidant, atque omnia cæcis
> "In tenebris metuunt, sic nos in luce timemus,
> "Interdum nihilo quæ sunt metuenda magis."

Such spectres can be dispelled by the light of philosophy only; which, by accustoming us to trace

established connexions, teaches us to despise those which are casual; and, by giving a proper direction to that bias of the mind which is the foundation of superstition, prevents it from leading us astray.

In the instances which we have now been considering, events come to be combined together in the mind, merely from the accidental circumstance of their contiguity in time, at the moment when we perceived them. Such combinations are confined, in a great measure, to uncultivated and unenlightened minds; or to those individuals who, from nature or education, have a more than ordinary facility of association. But there are other accidental combinations, which are apt to lay hold of the most vigorous understandings; and from which, as they are the natural and necessary result of a limited experience, no superiority of intellect is sufficient to preserve a philosopher, in the infancy of physical science.

As the connexions among physical events are discovered to us by experience alone, it is evident, that when we see a phenomenon preceded by a number of different circumstances, it is impossible for us to determine, by any reasoning *a priori*, which of these circumstances are to be regarded as the *constant*, and which as the *accidental*, antecedents of the effect. If, in the course of our experience, the same combination of circumstances is always exhibited to us without any alteration, and is invariably followed by the same result, we must for ever remain ignorant, whether this result be connected with the whole combination, or with one or more of the circumstances combined; and therefore, if we are anxious,

upon any occasion, to produce a similar effect, the only rule that we can follow with perfect security, is to imitate in every particular circumstance the combination which we have seen. It is only where we have an opportunity of separating such circumstances from each other; of combining them variously together; and of observing the effects which result from these different experiments, that we can ascertain with precision, the general laws of nature, and strip physical causes of their accidental and unessential concomitants.

To illustrate this by an example. Let us suppose that a savage, who, in a particular instance, had found himself relieved of some bodily indisposition by a draught of cold water, is a second time afflicted with a similar disorder, and is desirous to repeat the same remedy. With a limited degree of experience which we have here supposed him to possess, it would be impossible for the acutest philosopher, in his situation, to determine, whether the cure was owing to the water which was drunk, to the cup in which it was contained, to the fountain from which it was taken, to the particular day of the month, or to the particular age of the moon. In order, therefore, to ensure the success of the remedy, he will very naturally, and very wisely, copy, as far as he can recollect, every circumstance which accompanied the first application of it. He will make use of the same cup, draw the water from the same fountain, hold his body in the same posture, and turn his face in the same direction; and thus all the accidental circumstances in which the first experiment was made, will come to be associated

equally in his mind with the effect produced. The fountain from which the water was drawn, will be considered as possessed of particular virtues; and the cup from which it was drunk, will be set apart from vulgar uses, for the sake of those who may afterwards have occasion to apply the remedy. It is the enlargement of experience alone, and not any progress in the art of reasoning, which can cure the mind of these associations, and free the practice of medicine from those superstitious observances with which we always find it incumbered among rude nations.

Many instances of this species of superstition might be produced from the works of philosophers who have flourished in more enlightened ages. In particular, many might be produced from the writings of those physical inquirers who immediately succeeded to Lord Bacon; and who, convinced by his arguments; of the folly of all reasonings *a priori*, concerning the laws of nature, were frequently apt to run into the opposite extreme, by recording every circumstance, even the most ludicrous, and the most obviously inessential, which attended their experiments. *

The observations which have been hitherto made, relate entirely to associations founded on casual

* The reader will scarcely believe, that the following cure for a dysentery is copied *verbatim* from the works of Mr. Boyle:

"Take the thigh-bone of a hanged man, (perhaps another may "serve, but this was still made use of,) calcine it to whiteness, "and having purged the patient with an antimonial medicine, "give him one drachm of this white powder for one dose, in "some good cordial, whether conserve or liquor."

combinations of *material* objects, or of *physical* events. The effects which these associations produce on the understanding, and which are so palpable, that they cannot fail to strike the most careless observer, will prepare the reader for the remarks I am now to make, on some analogous prejudices which warp our opinions on still more important subjects.

As the established laws of the material world, which have been exhibited to our senses from our infancy, gradually accommodate to themselves the order of our thoughts; so the most arbitrary and capricious institutions and customs, by a long and constant and exclusive operation on the mind, acquire such an influence in forming the intellectual habits, that every deviation from them not only produces surprise, but is apt to excite sentiments of contempt and of ridicule. A person who has never extended his views beyond that society of which he himself is a member, is apt to consider many peculiarities in the manners and customs of his countrymen as founded on the universal principles of the human constitution; and when he hears of other nations, whose practices in similar cases are different, he is apt to censure them as unnatural, and to despise them as absurd. There are two classes of men who have more particularly been charged with this weakness; those who are placed at the bottom, and those who have reached the summit of the scale of refinement; the former from ignorance, and the latter from national vanity.

For curing this class of prejudices, the obvious expedient which nature points out to us, is to extend

our acquaintance with human affairs, either by means of books, or of personal observation. The effects of travelling, in enlarging and in enlightening the mind, are obvious to our daily experience; and similar advantages may be derived (although, perhaps, not in an equal degree) from a careful study of the manners of past ages or of distant nations, as they are described by the historian. In making, however, these attempts for our intellectual improvement, it is of the utmost consequence to us to vary, to a considerable degree, the objects of our attention; in order to prevent any danger of our acquiring an exclusive preference for the caprices of any one people, whose political situation, or whose moral character, may attach us to them as faultless models for our imitation. The same weakness and versatility of mind; the same facility of association, which, in the case of a person who has never extended his views beyond his own community, is a source of national prejudice, and of national bigotry, renders the mind, when forced into new situations, easily susceptible of other prejudices no less capricious; and frequently prevents the time, which is devoted to travelling, or to study, from being subservient to any better purpose, than an importation of foreign fashions, or a still more ludicrous imitation of ancient follies.

The philosopher whose thoughts dwell habitually not merely upon what is, or what has been, but upon what is best and most expedient for mankind; who, to the study of books, and the observation of manners, has added a careful examination of the principles of the human constitution, and of those which

ought to regulate the social order; is the only person who is effectually secured against both the weaknesses which I have described. By learning to separate what is essential to morality and to happiness, from those adventitious trifles which it is the province of fashion to direct, he is equally guarded against the follies of national prejudice, and a weak deviation, in matters of indifference, from established ideas. Upon his mind, thus occupied with important subjects of reflexion, the fluctuating caprices and fashions of the times lose their influence; while accustomed to avoid the slavery of local and arbitrary habits, he possesses, in his own genuine simplicity of character, the same power of accommodation to external circumstances, which men of the world derive from the pliability of their taste, and the versatility of their manners. As the order, too, of his ideas is accommodated, not to what is casually presented from without, but to his own systematical principles, his associations are subject only to those slow and pleasing changes which arise from his growing light and improving reason; and, in such a period of the world as the present, when the press not only excludes the possibility of a permanent retrogradation in human affairs, but operates with an irresistible though gradual progress, in undermining prejudices and in extending the triumphs of philosophy, he may reasonably indulge the hope, that society will every day approach nearer and nearer to what he wishes it to be. A man of such a character, instead of looking back on the past with regret, finds himself (if I may use the expression) more at home in the world, and more satisfied with its or-

der, the longer he lives in it. The melancholy contrasts which old men are sometimes disposed to state, between its condition, when they are about to leave it, and that in which they found it at the commencement of their career, arises, in most cases, from the unlimited influence which in their early years they had allowed to the fashions of the times, in the formation of their characters. How different from those sentiments and prospects which dignified the retreat of Turgot, and brightened the declining years of Franklin!

The querulous temper, however, which is incident to old men, although it renders their manners disagreeable in the intercourse of social life, is by no means the most contemptible form in which the prejudices I have now been describing may display their influence. Such a temper indicates at least a certain degree of observation, in marking the vicissitudes of human affairs, and a certain degree of sensibility in early life, which has connected pleasing ideas with the scenes of infancy and youth. A very great proportion of mankind are, in a great measure, incapable either of the one or of the other; and, suffering themselves to be carried quietly along with the stream of fashion, and finding their opinions and their feelings always in the same relative situation to the fleeting objects around them, are perfectly unconscious of any progress in their own ideas, or of any change in the manners of their age. In vain the philosopher reminds them of the opinions they yesterday held; and forewarns them, from the spirit of the times, of those which they are to hold to-morrow. The opinions of the present

moment seem to them to be inseparable from their constitution; and when the prospects are realised, which they lately treated as chimerical, their minds are so gradually prepared for the event, that they behold it without any emotions of wonder or curiosity; and it is to the philosopher alone, by whom it was predicted, that it appears to furnish a subject worthy of future reflexion.

The prejudices to which the last observations relate, have their origin in that disposition of our nature, which accommodates the order of our ideas, and our various intellectual habits, to whatever appearances have been long and familiarly presented to the mind. But there are other prejudices, which, by being intimately associated with the essential principles of our constitution, or with the original and universal laws of our belief, are incomparably more inveterate in their nature, and have a far more extensive influence on human character and happiness.

III. The manner in which the association of ideas operates in producing this third class of our speculative errors, may be conceived, in part, from what was formerly said, concerning the superstitious observances, which are mixed with the practice of medicine among rude nations. As all the different circumstances which accompanied the first administration of a remedy, come to be considered as essential to its future success, and are blended together in our conceptions, without any discrimination of their relative importance; so, whatever tenets and ceremonies we have been taught to connect with the religious creed of our infancy, become

almost a part of our constitution, by being indissolubly united with truths which are essential to happiness, and which we are led to reverence and to love, by all the best dispositions of the heart. The astonishment which the peasant feels, when he sees the rites of a religion different from his own, is not less great than if he saw some flagrant breach of the moral duties, or some direct act of impiety to God; nor is it easy for him to conceive, that there can be any thing worthy in a mind which treats with indifference, what awakens in his own breast, all its best and sublimest emotions. "Is it possible," (says the old and expiring Bramin, in one of Marmontel's tales, to the young English officer who had saved the life of his daughter,) "is it possible, that he to "whose compassion I owe the preservation of my "child, and who now soothes my last moments with "the consolations of piety, should not believe in "the god *Vistnou*, and his nine metamorphoses!"

What has now been said on the nature of religious superstition, may be applied to many other subjects. In particular, it may be applied to those political prejudices which bias the judgment even of enlightened men in all countries of the world.

How deeply rooted in the human frame are those important principles, which interest the good man in the prosperity of the world; and more especially in the prosperity of that beloved community to which he belongs! How small, at the same time, is the number of individuals who, accustomed to contemplate one modification alone of the social order, are able to distinguish the circumstances which are essential to human happiness, from those which are

indifferent or hurtful! In such a situation, how natural is it for a man of benevolence, to acquire an indiscriminate and superstitious veneration for all the institutions under which he has been educated; as these institutions, however capricious and absurd in themselves, are not only familiarised by habit to all his thoughts and feelings, but are consecrated in his mind by an indissoluble association with duties which nature recommends to his affections, and which reason commands him to fulfil. It is on these accounts that a superstitious zeal against innovation, both in religion and politics, where it is evidently grafted on piety to God, and good-will to mankind, however it may excite the sorrow of the more enlightened philosopher, is justly entitled, not only to his indulgence, but to his esteem and affection.

The remarks which have been already made, are sufficient to shew, how necessary it is for us, in the formation of our philosophical principles, to examine with care all those opinions which, in our early years, we have imbibed from our instructors; or which are connected with our own local situation. Nor does the universality of an opinion among men who have received a similar education, afford any presumption in its favour; for however great the deference is, which a wise man will always pay to common belief upon those subjects, which have employed the unbiassed reason of mankind, he certainly owes it no respect, in so far as he suspects it to be influenced by fashion or authority. Nothing can be more just than the observation of Fontenelle, that "the number of those who believe in a system "already established in the world, does not, in

"the least, add to its credibility; but that the "number of those who doubt of it, has a tendency "to diminish it."

The same remarks lead, upon the other hand, to another conclusion of still greater importance; that, notwithstanding the various false opinions which are current in the world, there are some truths, which are inseparable from the human understanding, and by means of which, the errors of education, in most instances, are enabled to take hold of our belief.

A weak mind, unaccustomed to reflexion, and which has passively derived its most important opinions from habits or from authority, when, in consequence of a more enlarged intercourse with the world, it finds, that ideas which it had been taught to regard as sacred, are treated by enlightened and worthy men with ridicule, is apt to lose its reverence for the fundamental and eternal truths on which these accessory ideas are grafted, and easily falls a prey to that sceptical philosophy which teaches, that all the opinions, and all the principles of action by which mankind are governed, may be traced to the influence of education and example. Amidst the infinite variety of forms, however, which our versatile nature assumes, it cannot fail to strike an attentive observer, that there are certain indelible features common to them all. In one situation, we find good men attached to a republican form of government; in another, to a monarchy; but in all situations, we find them devoted to the service of their country and of mankind, and disposed to regard, with reverence and love, the most absurd and capricious institutions which

custom has led them to connect with the order of society. The different appearances, therefore, which the political opinions and the political conduct of men exhibit, while they demonstrate to what a wonderful degree human nature may be influenced by situation and by early instruction, evince the existence of some common and original principles, which fit it for the political union, and illustrate the uniform operation of those laws of association, to which, in all the stages of society, it is equally subject.

Similar observations are applicable, and, indeed, in a still more striking degree, to the opinions of mankind on the important questions of religion and morality. The variety of systems which they have formed to themselves concerning these subjects, has often excited the ridicule of the sceptic and the libertine; but if, on the one hand, this variety shews the folly of bigotry, and the reasonableness of mutual indulgence; the curiosity which has led men in every situation to such speculations, and the influence which their conclusions, however absurd, have had on their character and their happiness, prove, no less clearly, on the other, that there must be some principles from which they all derive their origin; and invite the philosopher to ascertain what are these original and immutable laws of the human mind.

"Examine" (says Mr. Hume) "the religious "principles which have prevailed in the world. "You will scarcely be persuaded, that they are any "thing but sick men's dreams; or, perhaps, will "regard them more as the playsome whimsies of

"monkeys in human shape, than the serious, po-
"sitive, dogmatical asseverations of a being, who
"dignifies himself with the name of rational."——
"To oppose the torrent of scholastic religion by
"such feeble maxims as these, that it is impossible
"for the same thing to be and not to be; that
"the whole is greater than a part; that two and
"three make five; is pretending to stop the ocean
"with a bulrush." But what is the inference to which we are led by these observations? Is it, (to use the words of this ingenious writer,)
"that the whole is a riddle, an ænigma, an in-
"explicable mystery; and that doubt, uncertainty,
"and suspense, appear the only result of our most
"accurate scrutiny concerning this subject?" Or should not rather the melancholy histories which he has exhibited of the follies and caprices of superstition, direct our attention to those sacred and indelible characters on the human mind, which all these perversions of reason are unable to obliterate; like that image of himself, which Phidias wished to perpetuate, by stamping it so deeply on the buckler of his *Minerva;* "ut nemo delere posset aut divellere, qui totam statuam non imminueret."* In truth, the more strange the contradictions, and the more ludicrous the ceremonies to which the pride of human reason has thus been reconciled; the stronger is our evidence that religion has a foundation in the nature of man. When the greatest of modern philosophers declares, that "he
"would rather believe all the fables in the Legend,

* Select Discourses by JOHN SMITH, p. 119. Cambridge, 1673.

"and the Talmud, and the Alcoran, than that "this universal frame is without mind*;" he has expressed the same feeling, which, in all ages and nations, has led good men, unaccustomed to reasoning, to an implicit faith in the creed of their infancy; — a feeling which affords an evidence of the existence of the Deity, incomparably more striking, than if, unmixed with error and undebased by superstition, this most important of all principles had commanded the universal assent of mankind. Where are the other truths, in the whole circle of the sciences, which are so essential to human happiness, as to procure an easy access, not only for themselves, but for whatever opinions may happen to be blended with them? Where are the truths so venerable and commanding, as to impart their own sublimity to every trifling memorial which recals them to our remembrance; to bestow solemnity and elevation on every mode of expression by which they are conveyed; and which, in whatever scene they have habitually occupied the thoughts, consecrate every object which it presents to our senses, and the very ground we have been accustomed to tread? To attempt to weaken the authority of such impressions, by a detail of the endless variety of forms, which they derive from casual associations, is surely an employment unsuitable to the dignity of philosophy. To the vulgar, it may be amusing, in this, as in other instances, to indulge their wonder at what is new or uncommon; but to the philosopher it belongs to perceive, under all these various disguises, the

* Lord Bacon, in his Essays.

workings of the same common nature; and in the superstitions of Egypt, no less than in the lofty visions of Plato, to recognize the existence of those moral ties which unite the heart of man to the Author of his being.

SECTION II.

Influence of the Association of Ideas on our Judgments in Matters of Taste.

THE very general obervations which I am to make in this Section, do not presuppose any particular theory concerning the nature of Taste. It is sufficient for my purpose to remark, that Taste is not a simple and original faculty, but a power gradually formed by experience and observation. It implies, indeed, as its ground-work, a certain degree of natural sensibility; but it implies also the exercise of the judgment; and is the slow result of an attentive examination and comparison of the agreeable or disagreeable effects produced on the mind by external objects.

Such of my readers as are acquainted with "An "Essay on the Nature and Principles of Taste," lately published by Mr. Alison, will not be surprised that I decline the discussion of a subject which he has treated with so much ingenuity and elegance.

The view which was formerly given of the process by which the general laws of the material world are investigated, and which I endeavoured to illustrate by the state of medicine among rude nations, is strictly applicable to the history of Taste. That certain objects are fitted to give pleasure, and

others disgust, to the mind, we know from experience alone; and it is impossible for us, by any reasoning *a priori*, to explain *how* the pleasure or the pain is produced. In the works of nature we find, in many instances, Beauty and Sublimity involved among circumstances, which are either indifferent, or which obstruct the general effect: and it is only by a train of experiments, that we can separate those circumstances from the rest, and ascertain with what particular qualities the pleasing effect is connected. Accordingly, the inexperienced artist, when he copies Nature, will copy her servilely, that he may be certain of securing the pleasing effect; and the beauties of his performances will be encumbered with a number of superfluous or of disagreeable concomitants. Experience and observation alone can enable him to make this discrimination; to exhibit the principles of beauty pure and unadulterated, and to form a creation of his own, more faultless than ever fell under the observation of his senses.

This analogy between the progress of Taste from rudeness to refinement; and the progress of physical knowledge from the superstitions of a savage tribe, to the investigation of the laws of nature, proceeds on the supposition, that, as in the material world there are general facts, beyond which philosophy is unable to proceed; so, in the constitution of man, there is an inexplicable adaptation of the mind to the objects with which these faculties are conversant; in consequence of which, these objects are fitted to produce agreeable or disagreeable emotions. In both cases, reasoning may be em-

ployed with propriety to refer particular phenomena to general principles; but in both cases, we must at last arrive at principles of which no account can be given, but that such is the will of our Maker.

A great part, too, of the remarks which were made in the last Section on the origin of popular prejudices, may be applied to explain the influence of casual associations on Taste; but these remarks do not so completely exhaust the subject, as to supersede the necessity of farther illustration. In matters of Taste, the effects which we consider, are produced on the Mind itself; and are accompanied either with pleasure or with pain. Hence the tendency to casual association, is much stronger than it commonly is, with respect to physical events; and when such associations are once formed, as they do not lead to any important inconvenience, similar to those which result from physical mistakes, they are not so likely to be corrected by mere experience, unassisted by study. To this it is owing, that the influence of association on our judgments concerning beauty and deformity, is still more remarkable than on our speculative conclusions; a circumstance which has led some philosophers to suppose, that association is sufficient to account for the origin of these notions; and that there is no such thing as a standard of Taste, founded on the principles of the human constitution. But this is undoubtedly pushing the theory a great deal too far. The association of ideas can never account for the origin of a new notion; or of a pleasure essentially different from all the others which we know. It may, indeed, enable us to conceive how a thing indifferent in it-

self, may become a source of pleasure, by being connected in the mind with something else which is naturally agreeable; but it presupposes, in every instance, the existence of those notions and those feelings which it is its province to combine: insomuch that, I apprehend, it will be found, whereever association produces a change in our judgments on matters of Taste, it does so, by co-operating with some natural principle of the mind, and implies the existence of certain original sources of pleasure and uneasiness.

A mode of dress, which at first appeared awkward, acquires, in a few weeks or months, the appearance of elegance. By being accustomed to see it worn by those whom we consider as models of Taste, it becomes associated with the agreeable impressions which we receive from the ease and grace and refinement of their manners. When it pleases by itself, the effect is to be ascribed, not to the object actually before us, but to the impressions with which it has been generally connected, and which it naturally recalls to the mind.

This observation points out the cause of the perpetual vicissitudes in dress, and in every thing whose chief recommendation arises from fashion. It is evident that, as far as the agreeable effect of an ornament arises from association, the effect will continue only while it is confined to the higher orders. When it is adopted by the multitude, it not only ceases to be associated with ideas of taste and refinement, but it is associated with ideas of affectation, absurd imitation, and vulgarity. It is accordingly laid aside by the higher orders, who studiously avoid

every circumstance in external appearance, which is debased by low and common use; and they are led to exercise their invention, in the introduction of some new peculiarities, which first become fashionable, then common, and last of all, are abandoned as vulgar.

It has been often remarked, that after a certain period in the progress of society, the public Taste becomes corrupted; and the different productions of the fine arts begin to degenerate from that simplicity, which they had attained in their state of greatest perfection. One reason of this decline is suggested by the foregoing observations.

From the account which has been given of the natural progress of Taste, in separating the genuine principles of beauty from superfluous and from offensive concomitants, it is evident, that there is a limit, beyond which the love of simplicity cannot be carried. No bounds, indeed, can be set to the creations of genius; but as this quality occurs seldom in an eminent degree, it commonly happens, that after a period of great refinement of Taste, men begin to gratify their love of variety, by adding superfluous circumstances to the finished models exhibited by their predecessors, or by making other trifling alterations on them, with a view merely of diversifying the effect. These additions and alterations, indifferent, perhaps, or even in some degree offensive in themselves, acquire soon a borrowed beauty, from the connexion in which we see them, or from the influence of fashion: the same cause which at first produced them, continues perpetually to increase their number; and Taste returns to barbarism, by

almost the same steps which conducted it to perfection.

The truth of these remarks will appear still more striking to those who consider the wonderful effect which a writer of splendid genius, but of incorrect taste, has in misleading the public judgment. The peculiarities of such an author are consecrated by the connexion in which we see them, and even please, to a certain degree, when detached from the excellencies of his composition, by recalling to us the agreeable impressions with which they have been formerly associated. How many imitations have we seen, of the affectations of Sterne, by men who were unable to copy his beauties? And yet these imitations of his defects; of his abrupt manner; of his minute specification of circumstances; and even of his dashes, produce, at first, some effect on readers of sensibility, but of uncultivated taste, in consequence of the exquisite strokes of the pathetic, and the singular vein of humour, with which they are united in the original.

From what has been said, it is obvious, that the circumstances which please, in the objects of Taste, are of two kinds: First, those which are fitted to please by nature, or by associations which all mankind are led to form by their common condition; and Secondly, those which please in consequence of associations arising from local and accidental circumstances. Hence, there are two kinds of Taste: the one enabling us to judge of those beauties which have a foundation in the human constitution; the other, of such objects as derive their principal recommendation from the influence of fashion.

These two kinds of Taste are not always united in the same person: indeed, I am inclined to think, that they are united but rarely. The perfection of the one, depends much upon the degree in which we are able to free the mind from the influence of casual associations; that of the other, on the contrary, depends on a facility of association, which enables us to fall in, at once, with all the turns of the fashion, and (as Shakespeare expresses it) "to "catch the tune of the times."

I shall endeavour to illustrate some of the foregoing remarks, by applying them to the subject of language, which affords numberless instances to exemplify the influence which the association of ideas has on our judgments in matters of Taste.

In the same manner in which an article of dress acquired an appearance of elegance or of vulgarity from the persons by whom it is habitually worn; so a particular mode of pronunciation acquires an air of fashion or of rusticity, from the persons by whom it is habitually employed. The Scotch accent is surely in itself as good as the English; and with a few exceptions, is as agreeable to the ear: and yet how offensive does it appear, even to us, who have been accustomed to hear it from our infancy, when compared with that which is used by our southern neighbours! — No reason can be given for this, but that the capital of Scotland is now become a provincial town, and London is the seat of our court.

The distinction which is to be found, in the languages of all civilised nations, between low and polite modes of expression, arises from similar causes. It is, indeed, amusing to remark, the solicitude with

which the higher orders, in the monarchies of modern Europe, avoid every circumstance in their exterior appearance and manner, which, by the most remote association, may, in the minds of others, connect them with the idea of the multitude. Their whole dress and deportment and conversation are studiously arranged to convey an imposing notion of their consequence; and to recal to the spectator, by numberless slight and apparently unintentional hints, the agreeable impressions which are associated with the advantages of fortune.

To this influence of association on language, it is necessary for every writer to attend carefully, who wishes to express himself with elegance. For the attainment of correctness and purity in the use of words, the rules of grammarians and of critics may be a sufficient guide; but it is not in the works of this class of authors, that the higher beauties of style are to be studied. As the air and manner of a gentleman can be acquired only by living habitually in the best society, so grace in composition must be attained by an habitual acquaintance with classical writers. It is indeed necessary for our information, that we should peruse occasionally, many books which have no merit in point of expression; but I believe it to be extremely useful to all literary men, to counteract the effect of this miscellaneous reading, by maintaining a constant and familiar acquaintance with a few of the most faultless models which the language affords. For want of some standard of this sort, we frequently see an author's taste in writing alter much to the worse in the course of his life; and his later productions fall be-

low the level of his early essays. D'Alembert tells us, that Voltaire had always lying on his table, the Petit Carême of Massillon, and the tragedies of Racine; the former to fix his taste in prose composition, and the latter in poetry.

In avoiding, however, expressions which are debased by vulgar use, there is a danger of running into the other extreme, in quest of fashionable words and phrases. Such an affectation may, for a few years, gratify the vanity of an author, by giving him the air of a man of the world; but the reputation it bestows, is of a very transitory nature. The works which continue to please from age to age, are written with perfect simplicity; while those which captivate the multitude by a display of meretricious ornaments, if, by chance, they should survive the fashions to which they are accommodated, remain only to furnish a subject of ridicule to posterity. The portrait of a beautiful woman, in the fashionable dress of the day, may please at the moment it is painted; nay, may perhaps please more than in any that the fancy of the artist could have suggested; but it is only in the plainest and simplest drapery, that the most perfect form can be transmitted with advantage to future times.

The exceptions which the history of literature seems to furnish to these observations, are only apparent. That, in the works of our best authors, there are many beauties which have long and generally been admired, and which yet owe their whole effect to association, cannot be disputed; but in such cases, it will always be found, that the associations which are the foundation of our

pleasure, have, in consequence of some peculiar combination of circumstances, been more widely diffused, and more permanently established among mankind, than those which date their origin from the caprices of our own age are ever likely to be. An admiration for the classical remains of antiquity is, at present, not less general in Europe, than the advantages of a liberal education: and such is the effect of this admiration, that there are certain caprices of Taste, from which no man who is well educated is entirely free. A composition in a modern language, which should sometimes depart from the ordinary modes of expression, from an affectation of the idioms which are consecrated in the classics, would please a very wide circle of readers, in consequence of the prevalence of classical associations; and, therefore, such affectations, however absurd, when carried to a degree of singularity, are of a far superior class to those which are adapted to the fashions of the day. But still the general principle holds true, That whatever beauties derive their original merely from casual association, must appear capricious to those to whom the association does not extend; and that the simplest style is that which continues longest to please, and which pleases most universally. In the writings of Mr. Harris, there is a certain classical air, which will always have many admirers, while ancient learning continues to be cultivated; but which, to a mere English reader, appears somewhat unnatural and ungraceful, when compared with the composition of Swift or of Addison.

The analogy of the arts of statuary and paint-

ing, may be of use in illustrating these remarks. The influence of ancient times has extended to these, as well as to the art of writing; and in this case, no less than in the other, the transcendent power of genius has established a propriety of choice in matters of indifference, and has, perhaps, consecrated in the opinion of mankind, some of its own caprices.

"Many of the ornaments of art," (says Sir Joshua Reynolds,) "those at least for which no reason can "be given, are transmitted to us, are adopted, and "acquire their consequence, from the company in "which we have been used to see them. As Greece "and Rome are the fountains from whence have "flowed all kinds of excellence, to that veneration "which they have a right to claim for the pleasure "and knowledge which they have afforded us, we "voluntarily add our approbation of every orna-"ment and every custom that belonged to them, "even to the fashion of their dress. For it may be "observed, that, not satisfied with them in their "own place, we make no difficulty of dressing "statues of modern heroes or senators in the fashion "of the Roman armour, or peaceful robe; and even "go so far as hardly to bear a statue in any other "drapery.

"The figures of the great men of those nations "have come down to us in sculpture. In sculpture "remain almost all the excellent specimens of "ancient art. We have so far associated personal "dignity to the persons thus represented, and the "truth of art to their manner of representation, "that it is not in our power any longer to separate

"them. This is not so in painting: because, having "no excellent ancient portraits, that connexion was "never formed. Indeed, we could no more ven- "ture to paint a general officer in a Roman military "habit, than we could make a statue in the present "uniform. But since we have no ancient portraits, "to shew how ready we are to adopt those kind of "prejudices, we make the best authority among the "moderns serve the same purpose. The great "variety of excellent portraits with which Vandyke "has enriched this nation, we are not content to "admire for their real excellence, but extend our "approbation even to the dress which happened to "be the fashion of that age. By this means, it "must be acknowledged, very ordinary pictures "acquired something of the air and effect of the "works of Vandyke, and appeared therefore, at "first sight, better pictures than they really were. "They appeared so, however, to those only who had "the means of making this association." *

The influence of association on our notions concerning language, is still more strongly exemplified in poetry than in prose. As it is one great object of the poet, in his serious productions, to elevate the imagination of his readers above the grossness of sensible objects, and the vulgarity of common life, it becomes peculiarly necessary for him to reject the use of all words and phrases which are trivial and hackneyed. Among those which are equally pure and equally perspicuous, he, in general, finds it expedient to adopt that which is the least common.

* Reynolds's Discourses, p. 313, et seq.

Milton prefers the words Rhene and Danaw, to the more common words Rhine and Danube:

> " A multitude, like which the populous North
> " Pour'd never from his frozen loins, to pass
> " Rhene or the Danaw." *

In the following line,

> " Things unattempted yet in prose or rhyme,"

how much more suitable to the poetical style does the expression appear, than if the author had said,

> " Things unattempted yet in prose or verse."

In another passage, where, for the sake of variety, he has made use of the last phrase, he adds an epithet, to remove it a little from the familiarity of ordinary discourse,

> ——— " in prose or numerous verse." †

In consequence of this circumstance, there arises gradually in every language a poetical diction, which differs widely from the common diction of prose. It is much less subject to the vicissitudes of fashion, than the polite modes of expression in familiar conversation; because, when it has once been adopted by the poet, it is avoided by good prose-writers, as being too elevated for that species of composition. It may therefore retain its charm, as long as the language exists; nay, the charm may increase, as the language grows older.

Indeed, the charm of poetical diction must increase to a certain degree, as polite literature advances. For when once a set of words has been

* Paradise Lost, book i. l. 351.

† Paradise Lost, book i. l. 150. See NEWTON's Edit.

consecrated to poetry, the very sound of them, independently of the ideas they convey, awakens, every time we hear it, the agreeable impressions which were connected with it when we met with them in the performances of our favourite authors. Even when strung together in sentences which convey no meaning, they produce some effect on the mind of a reader of sensibility: an effect, at least, extremely different from that of an unmeaning sentence in prose.

Languages differ from each other widely in the copiousness of their poetical diction. Our own possesses, in this respect, important advantages over the French: not that, in this language, there are no words appropriated to poetry, but because their number is, comparatively speaking, extremely limited.

The scantiness of the French poetical diction is, probably, attended with the lessin convenience, that the phrases which occur in good prose-writing are less degraded by vulgar application than in English, in consequence of the line being more distinctly and more strongly drawn between polite and low expressions in that language than in ours. Our poets, indeed, by having a language appropriated to their own purposes, not only can preserve dignity of expression, but can connect with the perusal of their compositions, the pleasing impressions which have been produced by those of their predecessors. And hence, in the higher sorts of poetry, where their object is to kindle, as much as possible, the enthusiasm of their readers, they not only avoid, studiously, all expressions which are vulgar, but all such as are borrowed from fashionable life. This certainly

cannot be done in an equal degree by a poet who writes in the French language.

In English, the poetical diction is so extremely copious, that it is liable to be abused; as it puts it in the power of authors of no genius, merely by ringing changes on the poetical vocabulary, to give a certain degree of currency to the most unmeaning compositions. In Pope's *Song by a Person of Quality*, the incoherence of ideas is scarcely greater than what is to be found in some admired passages of our fashionable poetry.

Nor is it merely by a difference of words, that the language of poetry is distinguished from that of prose. When a poetical *arrangement* of words has once been established by authors of reputation, the most common expressions, by being presented in this consecrated order, may serve to excite poetical associations.

On the other hand, nothing more completely destroys the charm of poetry, than a string of words which the custom of ordinary discourse has arranged in so invariable an order, that the whole phrase may be anticipated from hearing its commencement. A single word frequently strikes us as flat and prosaic, in consequence of its familiarity; but two such words coupled together in the order of conversation, can scarcely be introduced into serious poetry without appearing ludicrous.

No poet in our language has shewn so strikingly as Milton, the wonderful elevation which style may derive from an arrangement of words, which, while it is perfectly intelligible, departs widely from that to which we are in general accustomed. Many of

his most sublime periods, when the order of the words is altered, are reduced nearly to the level of prose.

To copy this artifice with success, is a much more difficult attainment than is commonly imagined; and, of consequence, when it is acquired, it secures an author, to a great degree, from that crowd of imitators who spoil the effect of whatever is not beyond their reach. To the poet who uses blank verse, it is an acquisition of still more essential consequence than to him who expresses himself in rhyme; for the more that the structure of the verse approaches to prose, the more it is necessary to give novelty and dignity to the composition. And accordingly, among our magazine poets, ten thousand catch the structure of Pope's versification, for one who approaches to the manner of Milton, or of Thomson.

The facility, however, of this imitation, like every other, increases with the number of those who have studied it with success; for the more numerous the authors who have employed their genius in any one direction, the more copious are the materials out of which mediocrity may select and combine, so as to escape the charge of plagiarism. And, in fact, in our own language, this, as well as the other great resource of poetical expression, the employment of appropriated words, has had its effect so much impaired by the abuse which has been made of it, that a few of our best poets of late have endeavoured to strike out a new path for themselves, by resting the elevation for their composition chiefly on a singular, and, to an ordinary writer, an unattainable union of harmonious versification, with a natural arrangement of words, and a simple elegance of expression.

It is this union which seems to form the distinguishing charm of the poetry of Goldsmith.

From the remarks which have been made on the influence of the association of ideas on our judgments in matters of Taste, it is obvious how much the opinions of a nation with respect to merit in the fine arts, are likely to be influenced by the form of their government, and the state of their manners. Voltaire, in his discourse pronounced at his reception into the French academy, gives several reasons why the poets of that country have not succeeded in describing rural scenes and employments. The principal one is, the ideas of meanness, and poverty, and wretchedness, which the French are accustomed to associate with the profession of husbandry. The same thing is alluded to by the Abbé de Lille, in the preliminary discourse prefixed to his translation of the Georgics. "A translation," says he, "of this poem, if it had been undertaken by an author of genius, would have been better calculated than any other work, for adding to the riches of our language. A version of the Æneid itself, however well executed, would, in this respect, be of less utility; inasmuch as the genius of our tongue accommodates itself more easily to the description of heroic atchievements, than to the details of natural phenomena, and of the operations of husbandry. To force it to express these with suitable dignity, would have been a real conquest over that false delicacy, which it has contracted from our unfortunate prejudices."

How different must have been the emotions with which this divine performance of Virgil was read by

an ancient Roman, while he recollected that period in the history of his country, when dictators were called from the plough to the defence of the state, and after having led monarchs in triumph, returned again to the same happy and independent occupation. A state of manners to which a Roman author of a later age looked back with such enthusiasm, that he ascribes, by a bold poetical figure, the flourishing state of agriculture under the republic, to the grateful returns which the earth then made to the illustrious hands by which she was cultivated. "Gaudente terra vomere laureato, et triumphali "aratore." *

SECTION III.

Of the Influence of Association on our active Principles, and on our moral Judgments.

In order to illustrate a little farther, the influence of the Association of Ideas on the human mind, I shall add a few remarks on some of its effects on our active and moral principles. In stating these remarks, I shall endeavour to avoid, as much as possible, every occasion of controversy, by confining myself to such general views of the subject, as do not presuppose any particular enumeration of our original principles of action, or any particular system concerning the nature of the moral faculty. If my health and leisure enable me to carry my plans into execution, I propose, in the sequel of this

* Plin. Nat. Hist. xviii. 4.

work, to resume these inquiries, and to examine the various opinions to which they have given rise.

The manner in which the association of ideas operates in producing new principles of action, has been explained very distinctly by different writers. Whatever conduces to the gratification of any natural appetite, or of any natural desire, is itself desired on account of the end to which it is subservient; and by being thus habitually associated in our apprehension with agreeable objects, it frequently comes, in process of time, to be regarded as valuable in itself, independently of its utility. It is thus that wealth becomes, with many, an ultimate object of pursuit; although, at first, it is undoubtedly valued, merely on account of its subserviency to the attainment of other objects. In like manner, men are led to desire dress, equipage, retinue, furniture, on account of the estimation in which they are supposed to be held by the public. Such desires are called by Dr. Hutcheson * *secondary* desires: and their origin is explained by him in the way which I have mentioned. "Since we are capable," says he, "of reflection, memory, observation, and "reasoning about the distant tendencies of objects "and actions, and not confined to things present, "there must arise, in consequence of our original "desires, secondary desires of every thing imagined useful to gratify any of the primary desires; "and that with strength proportioned to the several "original desires, and imagined usefulness or necessity of the advantageous object." "Thus,"

* See his Essay on the Nature and Conduct of the Passions.

he continues, "as soon as we come to apprehend "the use of wealth or power to gratify any of our "original desires, we must also desire them; and "hence arises the universality of these desires of "wealth and power, since they are the means of "gratifying all other desires." The only thing that appears to me exceptionable in the foregoing passage is, that the author classes the desire of power with that of wealth; whereas I apprehend it to be clear, (for reasons which I shall state in another part of this work,) that the former is a primary desire, and the latter a secondary one.

Our moral judgments, too, may be modified, and even perverted, to a certain degree, in consequence of the operation of the same principle. In the same manner in which a person who is regarded as a model of taste may introduce, by his example, an absurd or fantastical dress; so a man of splendid virtues may attract some esteem also to his imperfections; and, if placed in a conspicuous situation, may render his vices and follies objects of general imitation among the multitude.

"In the reign of Charles II." says Mr. Smith *, "a degree of licentiousness was deemed the charac-"teristic of a liberal education. It was connected, "according to the notions of those times, with "generosity, sincerity, magnanimity, loyalty; and "proved that the person who acted in this manner, "was a gentleman, and not a puritan. Severity of "manners, and regularity of conduct, on the other "hand, were altogether unfashionable, and were

* Theory of Moral Sentiments.

" connected, in the imagination of that age, with " cant, cunning, hypocrisy, and low manners. To " superficial minds, the vices of the great seem at " all times agreeable. They connect them, not only " with the splendour of fortune, but with many " superior virtues which they ascribe to their su- " periors; with the spirit of freedom and indepen- " dency; with frankness, generosity, humanity, and " politeness. The virtues of the inferior ranks of " people, on the contrary, their parsimonious fru- " gality, their painful industry, and rigid adherence " to rules, seem to them mean and disagreeable. " They connect them both with the meanness of " the station to which these qualities commonly " belong, and with many great vices which they " suppose usually accompany them; such as an " abject, cowardly, ill-natured, lying, pilfering " disposition."

The theory which, in the foregoing passages from Hutcheson and Smith, is employed so justly and philosophically to explain the origin of our secondary desires, and to account for some perversions of our moral judgments, has been thought sufficient, by some later writers, to account for the origin of all our active principles without exception. The first of these attempts to extend so very far the application of the doctrine of Association was made by the Reverend Mr. Gay, in a dissertation " con- " cerning the fundamental Principle of Virtue," which is prefixed by Dr. Law to his translation of Archbishop King's Essay " on the Origin of Evil." In this dissertation, the author endeavours to shew, " that our approbation of morality, and all affections

"whatsoever, are finally resolvable into reason, "pointing out private happiness, and are conver- "sant only about things apprehended to be means "tending to this end; and that wherever this end "is not perceived, they are to be accounted for "from the association of ideas, and may properly "be called *habits.*" The same principles have been since pushed to a much greater length by Dr. Hartley, whose system (as he himself informs us) took rise from his accidentally hearing it mentioned as an opinion of Mr. Gay, "that the association of ideas was sufficient to account for all our intellectual pleasures and pains."*

It must, I think, in justice, be acknowledged, that this theory, concerning the origin of our affections, and of the moral sense, is a most ingenious refinement upon the selfish system, as it was formerly taught; and that, by means of it, the force of many of the common reasonings against that system is eluded. Among these reasonings, particular stress has always been laid on the instantaneousness with which our affections operate, and the moral sense approves or condemns; and on our total want of consciousness, in such cases, of any reference to our own happiness. The modern advocates for the selfish system admit the fact to be as it is

* Mr. Hume too, who, in my opinion, has carried this principle of the Association of Ideas a great deal too far, has compared the universality of its applications in the philosophy of mind, to that of the principle of attraction in physics. "Here," says he, "is a kind of attraction, which in the mental world "will be found to have as extraordinary effects as in the natural, "and to shew itself in as many and as various forms." *Treat. of Hum. Nat.* vol. i. p. 30.

stated by their opponents; and grant, that after the moral sense and our various affections are formed, their exercise, in particular cases, may become completely disinterested; but still they contend, that it is upon a regard to our own happiness that all these principles are originally grafted. The analogy of avarice will serve to illustrate the scope of this theory. It cannot be doubted that this principle of action is artificial. It is on account of the enjoyments which it enables us to purchase, that money is originally desired; and yet, in process of time, by means of the agreeable impressions which are associated with it, it comes to be desired for its own sake; and even continues to be an object of our pursuit, long after we have lost all relish for those enjoyments which it enables us to command.

Without meaning to engage in any controversy on the subject, I shall content myself with observing, in general, that there must be some limit, beyond which the theory of association cannot possibly be carried; for the explanation which it gives, of the formation of new principles of action, proceeds on the supposition that there are other principles previously existing in the mind. The great question then is, when we are arrived at this limit; or, in other words, when we are arrived at the simple and original laws of our constitution.

In conducting this inquiry, philosophers have been apt to go into extremes. Lord Kaimes, and some other authors have been censured, and perhaps justly, for a disposition to multiply original principles to an unnecessary degree. It may be

questioned, whether Dr. Hartley, and his followers, have not sometimes been misled by too eager a desire of abridging their number.

Of these two errors, the former is the least common, and the least dangerous. It is the least common, because it is not so flattering as the other to the vanity of a theorist; and it is the least dangerous, because it has no tendency, like the other, to give rise to a suppression, or to a misrepresentation of facts; or to retard the progress of the science, by bestowing upon it an appearance of systematical perfection, to which, in its present state, it is not entitled.

Abstracting, however, from these inconveniences, which must always result from a precipitate reference of phenomena to general principles, it does not seem to me, that the theory in question has any tendency to weaken the foundation of morals. It has, indeed, some tendency, in common with the philosophy of Hobbes and of Mandeville, to degrade the dignity of human nature; but it leads to no sceptical conclusions concerning the rule of life. For, although we were to grant, that all our principles of action are acquired; so striking a difference among them must still be admitted, as is sufficient to distinguish clearly those universal laws which were intended to regulate human conduct, from the local habits which are formed by education and fashion. It must still be admitted, that while some active principles are confined to particular individuals, or to particular tribes of men, there are others, which, arising from circumstances in which all the situations of mankind must agree, are com-

mon to the whole species. Such active principles as fall under this last description, at whatever period of life they may appear, are to be regarded as a part of human nature, no less than the instinct of suction; in the same manner as the acquired perception of distance by the eye, is to be ranked among the perceptive powers of man, no less than the original perceptions of any of our other senses.

Leaving, therefore, the question concerning the origin of our active principles, and of the moral faculty, to be the subject of future discussion, I shall conclude this Section with a few remarks of a more practical nature.

It has been shewn by different writers, how much of the beauty and sublimity of material objects arise from the ideas and feelings which we have been taught to associate with them. The impression produced on the external senses of a poet, by the most striking scene in nature, is precisely the same with what is produced on the senses of a peasant or a tradesman: yet how different is the degree of pleasure resulting from this impression! A great part of this difference is undoubtedly to be ascribed, to the ideas and feelings which the habitual studies and amusements of the poet have associated with his organical perceptions.

A similar observation may be applied to all the various objects of our pursuit in life. Hardly any one of them is appreciated by any two men in the same manner; and frequently what one man considers as essential to his happiness, is regarded with indifference or dislike by another. Of these differences of opinion, much is, no doubt, to be as-

cribed to a diversity of constitution, which renders a particular employment of the intellectual or active powers agreeable to one man, which is not equally so to another. But much is also to be ascribed to the effect of association; which, prior to any experience of human life, connects pleasing ideas and pleasing feelings with different objects, in the minds of different persons.

In consequence of these associations, every man appears to his neighbour to pursue the object of his wishes, with a zeal disproportioned to its intrinsic value; and the philosopher (whose principal enjoyment arises from speculation) is frequently apt to smile at the ardour with which the active part of mankind pursue, what appear to him to be mere shadows. This view of human affairs, some writers have carried so far, as to represent life as a scene of mere illusions, where the mind refers to the objects around it, a colouring which exists only in itself; and where, as the Poet expresses it,

—— "Opinion gilds with varying rays,
"Those painted clouds which beautify our days."

It may be questioned, if these representations of human life be useful or just. That the casual associations which the mind forms in childhood, and in early youth, are frequently a source of inconvenience and of misconduct, is sufficiently obvious; but that this tendency of our nature increases, on the whole, the sum of human enjoyment, appears to me to be indisputable; and the instances in which it misleads us from our duty and our happiness, only prove, to what important ends it might be subservient, if it were kept under proper regulation.

Nor do these representations of life (admitting them in their full extent) justify the practical inferences which have been often deduced from them, with respect to the vanity of our pursuits. In every case, indeed, in which our enjoyment depends upon association, it may be said, in one sense, that it arises from the mind itself; but it does not therefore follow, that the external object which custom has rendered the cause or the occasion of agreeable emotions, is indifferent to our happiness. The effect which the beauties of nature produce on the mind of the poet, is wonderfully heightened by association; but his enjoyment is not, on that account, the less exquisite: nor are the objects of his admiration of the less value to his happiness, that they derive their principal charms from the embellishments of his fancy.

It is the business of education, not to counteract, in any instance, the established laws of our constitution, but to direct them to their proper purposes. That the influence of early associations on the mind might be employed, in the most effectual manner, to aid our moral principles, appears evidently from the effects which we daily see it produce, in reconciling men to a course of action which their reason forces them to condemn; and it is no less obvious that, by means of it, the happiness of human life might be increased, and its pains diminished, if the agreeable ideas and feelings which children are so apt to connect with events and with situations which depend on the caprice of fortune, were firmly associated in their apprehensions with the duties of their stations, with the pursuits of

science, and with those beauties of nature which are open to all.

These observations coincide nearly with the ancient stoical doctrine concerning the influence of *imagination* * on morals; a subject, on which many important remarks, (though expressed in a form different from that which modern philosophers have introduced, and, perhaps, not altogether so precise and accurate,) are to be found in the Discourses of Epictetus, and in the Meditations of Antoninus †. This doctrine of the Stoical school, Dr. Akenside has in view in the following passage:

" Action treads the path
" In which Opinion says he follows good,
" Or flies from evil; and Opinion gives
" Report of good or evil, as the scene
" Was drawn by fancy, lovely or deform'd:
" Thus her report can never there be true,
" Where fancy cheats the intellectual eye
" With glaring colours and distorted lines.
" Is there a man, who at the sound of death
" Sees ghastly shapes of terror conjur'd up,
" And black before him: nought but death-bed groans
" And fearful prayers, and plunging from the brink
" Of light and being, down the gloomy air,
" An unknown depth? Alas! in such a mind,
" If no bright forms of excellence attend
" The image of his country; nor the pomp
" Of sacred senates, nor the guardian voice

* According to the use which I make of the words Imagination and Association, in this work, their effects are obviously distinguishable. I have thought it proper, however, to illustrate the difference between them a little more fully in Note [R].

† See what Epictetus has remarked on the χρησις οια δει φαντασιων. (Arrian, l. i. c. 12.) Οια αν πολλακις φαινασθης, τοιαυτη σοι εσται, ἡ διανοια. βαπτεται γαρ ὑπο των φαντασιων ἡ ψυχη. βαπτε ουν αυτην, τη συνεχεια των τοιουτων φαντασιων, &c. &c. Anton. l. v. c. 16.

" Of justice on her throne, nor aught that wakes
" The conscious bosom with a patriot's flame:
" Will not Opinion tell him, that to die,
" Or stand the hazard, is a greater ill
" Than to betray his country? And in act
" Will he not chuse to be a wretch and live?
" Here vice begins then." *

SECTION IV.

General Remarks on the Subjects treated in the foregoing Sections of this Chapter.

In perusing the foregoing Sections of this Chapter, I am aware, that some of my readers may be apt to think that many of the observations which I have made, might easily be resolved into more general principles. I am also aware, that, to the followers of Dr. Hartley, a similar objection will occur against all the other parts of this work; and that it will appear to them the effect of inexcusable prejudice, that I should stop short so frequently in the explanation of phenomena; when he has accounted in so satisfactory a manner, by means of the association of ideas, for all the appearances which human nature exhibits.

To this objection, I shall not feel myself much interested to reply, provided it be granted that my observations are candidly and accurately stated, so far as they reach. Supposing that in some cases I may have stopped short too soon, my speculations, although they may be censured as imperfect, cannot be considered as standing in opposition to the conclusions of more successful inquirers.

* Pleasures of Imagination, b. iii.

May I be allowed farther to observe, that such views of the human mind as are contained in this work, (even supposing the objection to be well founded,) are, in my opinion, indispensably necessary, in order to prepare the way for those very general and comprehensive theories concerning it, which some eminent writers of the present age have been ambitious to form?

Concerning the merit of these theories, I shall not presume to give any judgment. I shall only remark, that, in all the other sciences, the progress of discovery has been gradual, from the less general to the more general laws of nature; and that it would be singular, indeed, if, in the Philosophy of the Human Mind, a science, which but a few years ago was confessedly in its infancy, and which certainly labours under many disadvantages peculiar to itself, a step should, all at once, be made to a single principle comprehending all the particular phenomena which we know.

Supposing such a theory to be completely established, it would still be proper to lead the minds of students to it by gradual steps. One of the most important uses of theory, is to give the memory a permanent hold, and a prompt command, of the particular facts which we were previously acquainted with; and no theory can be completely understood, unless the mind be led to it nearly in the order of investigation.

It is more particularly useful, in conducting the studies of others, to familiarise their minds, as completely as possible, with those laws of nature for which we have the direct evidence of sense, or

of consciousness, before directing their inquiries to the more abstruse and refined generalizations of speculative curiosity. In natural philosophy, supposing the theory of Boscovich to be true, it would still be proper, or rather indeed absolutely necessary, to accustom students, in the first stage of their physical education, to dwell on those general physical facts which fall under our actual observation, and about which all the practical arts of life are conversant. In like manner, in the philosophy of mind, there are many general facts for which we have the direct evidence of consciousness. The words, Attention, Conception, Memory, Abstraction, Imagination, Curiosity, Ambition, Compassion, Resentment, express powers and principles of our nature, which every man may study by reflecting on his own internal operations. Words corresponding to these, are to be found in all languages, and may be considered as forming the first attempt towards a philosophical classification of intellectual and moral phenomena. Such a classification however imperfect and indistinct, we may be assured, must have some foundation in nature; and it is at least prudent, for a philosopher to keep it in view as the ground-work of his own arrangement. It not only directs our attention to those facts in the human constitution, on which every solid theory in this branch of science must be founded; but to the facts, which, in all ages have appeared, to the common sense of mankind, to be the most striking and important; and of which it ought to be the great object of theorists, not to supersede, but to facilitate the study.

There is indeed good reason for believing, that many of the facts which our consciousness would lead us to consider, upon a superficial view, as ultimate facts are resolvable into other principles still more general. "Long before we are capable "of reflection," (says Dr. Reid,) "the original "perceptions and notions of the mind are so mixed, "compounded, and decompounded, by habits, as- "sociations, and abstractions, that it is extremely "difficult for the mind to return upon its own "footsteps, and trace back those operations which "have employed it since it first began to think and "to act." The same author remarks, that, "if we "could obtain a distinct and full history of all that "hath passed in the mind of a child, from the be- "ginning of life and sensation, till it grows up to "the use of reason; how its infant faculties be- "gan to work, and how they brought forth and "ripened all the various notions, opinions, and "sentiments, which we find in ourselves when we "come to be capable of reflection; this would be "a treasure of Natural History, which would pro- "bably give more light into the human faculties "than all the systems of philosophers about them, "since the beginning of the world." To accomplish an analysis of these complicated phenomena into the simple and original principles of our constitution, is the great object of this branch of philosophy; but, in order to succeed, it is necessary to ascertain facts before we begin to reason, and to avoid generalizing, in any instance, till we have completely secured the ground that we have gained. Such a caution, which is necessary in all the sciences,

is, in a more peculiar manner, necessary here, where the very facts from which all our inferences must be drawn, are to be ascertained only by the most patient attention; and, where almost all of them are, to a great degree, disguised; partly by the inaccuracies of popular language, and partly by the mistaken theories of philosophers.

I have only to add, that, although I have retained the phrase of the Association of Ideas, in compliance with common language, I am far from being completely satisfied with this mode of expression. I have retained it, chiefly that I might not expose myself to the censure of delivering old doctrines in a new form.

As I have endeavoured to employ it with caution, I hope that it has not often misled me in my reasonings. At the same time, I am more and more convinced of the advantages to be derived from a reformation of the common language, in most of the branches of science. How much such a reformation has effected in Chemistry is well known; and it is evidently much more necessary in the Philosophy of Mind, where the prevailing language adds to the common inaccuracies of popular expressions, the peculiar disadvantage of being all suggested by the analogy of matter. Often, in the composition of this work, have I recollected the advice of Bergman to Morveau *: "In reforming the nomenclature of

* "Le savant Professeur d'Upsal, M. Bergman, écrivoit à M. "de Morveau dans les derniers temps de sa vie, ne faites graces "à aucune dénomination impropre. Ceux qui savent déja, en- "tendront toujours; ceux qui ne savent pas encore, entendront "plutôt." *Méthode de Nomenclat. Chémique, par MM.* MORVEAU, LAVOISIER, &c.

"chemistry, spare no word which is improper. "They who understand the subject already, will "suffer no inconvenience; and they to whom the "subject is new, will comprehend it with the "greater facility." But it belongs to such authors alone, as have extended the boundaries of science by their own discoveries, to introduce innovations in language with any hopes of success.

CHAPTER SIXTH.

Of Memory.

SECTION I.

General Observations on Memory.

Among the various powers of the understanding, there is none which has been so attentively examined by philosophers, or concerning which so many important facts and observations have been collected, as the faculty of Memory. This is partly to be ascribed to its nature, which renders it easily distinguishable from all the other principles of our constitution, even by those who have not been accustomed to metaphysical investigations; and partly to its immediate subserviency, not only to the pursuits of science, but to the ordinary business of life; in consequence of which, many of its most curious laws had been observed, long before any analysis was attempted of the other powers of the mind; and have, for many ages, formed a part of the common maxims which are to be found in every treatise of education. Some important remarks on the subject may, in particular, be collected from the writings of the ancient rhetoricians.

The word Memory is not employed uniformly in the same precise sense; but it always expresses some modification of that faculty, which enables us to treasure up, and preserve for future use, the knowledge we acquire; a faculty which is obviously

the great foundation of all intellectual improvement, and without which, no advantage could be derived from the most enlarged experience. This faculty implies two things: a capacity of retaining knowledge; and a power of recalling it to our thoughts when we have occasion to apply it to use. The word Memory is sometimes employed to express the capacity, and sometimes the power. When we speak of a retentive memory, we use it in the former sense; when, of a ready memory, in the latter.

The various particulars which compose our stock of knowledge are, from time to time, recalled to our thoughts, in one of two ways: sometimes they recur to us spontaneously, or at least, without any interference on our part; in other cases, they are recalled, in consequence of an effort of our will. For the former operation of the mind, we have no appropriated name in our language, distinct from Memory. The latter, too, is often called by the same name, but is more properly distinguished by the word Recollection.

There are, I believe, some other acceptations besides these, in which the word Memory has been occasionally employed; but as its ambiguities are not of such a nature as to mislead us in our present inquiries, I shall not dwell any longer on the illustration of distinctions, which to the greater part of readers might appear uninteresting and minute. One distinction only, relative to this subject, occurs to me, as deserving particular attention.

The operations of Memory relate either to things and their relations, or to events. In the former

case, thoughts which have been previously in the mind, may recur to us, without suggesting the idea of the past, or of any modification of time whatever; as when I repeat over a poem which I have got by heart, or when I think of the features of an absent friend. In this last instance, indeed, philosophers distinguish the act of the mind by the name of Conception; but in ordinary discourse, and frequently even in philosophical writing, it is considered as an exertion of Memory. In these and similar cases, it is obvious, that the operations of this faculty do not necessarily involve the idea of the past.

The case is different with respect to the memory of events. When I think of these, I not only recal to the mind the former objects of its thoughts, but I refer the event to a particular point of time; so that, of every such act of memory, the idea of the past is a necessary concomitant.

I have been led to take notice of this distinction, in order to obviate an objection which some of the phenomena of Memory seem to present, against a doctrine which I formerly stated, when treating of the powers of Conception and Imagination.

It is evident, that when I think of an event, in which any object of sense was concerned, my recollection of the event must necessarily involve an act of Conception. Thus, when I think of a dramatic representation which I have recently seen, my recollection of what I saw, necessarily involves a conception of the different actors by whom it was performed. But every act of recollection which relates to events, is accompanied with a belief of their

past existence. How then are we to reconcile this conclusion with the doctrine formerly maintained concerning Conception, according to which every exertion of that power is accompanied with a belief, that its object exists before us at the present moment?

The only way that occurs to me of removing this difficulty, is by supposing, that the remembrance of a past event is not a simple act of the mind; but that the mind first forms a conception of the event, and then judges from circumstances, of the period of time to which it is to be referred: a supposition which is by no means a gratuitous one, invented to answer a particular purpose; but which, as far as I am able to judge, is agreeable to fact: for if we have the power, as will not be disputed, of conceiving a past event without any reference to time, it follows, that there is nothing in the ideas or notions which Memory presents to us, which is necessarily accompanied with a belief of past existence, in a way analogous to that in which our perceptions are accompanied with a belief of the present existence of their objects; and therefore, that the reference of the event to the particular period at which it happened, is a judgment founded on concomitant circumstances. So long as we are occupied with the conception of any particular object connected with the event, we believe the present existence of the object; but this belief, which, in most cases, is only momentary, is instantly corrected by habits of judging acquired by experience; and as soon as the mind is disengaged from such a belief, it is left at liberty to refer the event to the period at which it

actually happened. Nor will the apparent instantaneousness of such judgments be considered as an unsurmountable objection to the doctrine now advanced, by those who have reflected on the perception of distance obtained by sight, which, although it seems to be as immediate as any perception of touch, has been shewn by philosophers to be the result of a judgment founded on experience and observation. The reference we make of past events to the particular points of time at which they took place, will, I am inclined to think, the more we consider the subject, be found the more strikingly analogous to the estimates of distance we learn to form by the eye.

Although, however, I am, myself, satisfied with the conclusion to which the foregoing reasonings lead, I am far from expecting that the case will be the same with all my readers. Some of their objections, which I can easily anticipate, might, I believe, be obviated by a little farther discussion; but as the question is merely a matter of curiosity, and has no necessary connexion with the observations I am to make in this Chapter, I shall not prosecute the subject at present. The opinion, indeed, we form concerning it, has no reference to any of the doctrines maintained in this work, excepting to a particular speculation concerning the belief accompanying conception, which I ventured to state, in treating of that subject, and which, as it appears to be extremely doubtful to some whose opinions I respect, I proposed with a degree of diffidence suitable to the difficulty of such an inquiry. The remaining observations which I am to make on the

power of memory, whatever opinion may be formed of their importance, will furnish but little room for a diversity of judgment concerning their truth.

In considering this part of our constitution, one of the most obvious and striking questions that occurs, is, what the circumstances are which determine the memory to retain some things in preference to others? Among the subjects which successively occupy our thoughts, by far the greater number vanish, without leaving a trace behind them; while others become, as it were, a part of ourselves, and, by their accumulations, lay a foundation for our perpetual progress in knowledge. Without pretending to exhaust the subject, I shall content myself at present with a partial solution of this difficulty, by illustrating the dependence of memory upon two principles of our nature, with which it is plainly very intimately connected; attention, and the association of ideas.

I endeavoured in a former Chapter to shew, that there is a certain act of the mind, (distinguished, both by philosophers and the vulgar, by the name of attention,) without which even the objects of our perceptions make no impression on the memory. It is also matter of common remark, that the permanence of the impression which any thing leaves in the memory, is proportioned to the degree of attention which was originally given to it. The observation has been so often repeated, and is so manifestly true, that it is unnecessary to offer any illustration of it.*

* It seems to be owing to this dependence of memory on attention, that it is easier to get by heart a composition, after a

I have only to observe farther, with respect to attention, considered in the relation in which it stands to memory, that although it be a voluntary act, it requires experience to have it always under command. In the case of objects to which we have been taught to attend at an early period of life, or which are calculated to rouse the curiosity, or to affect any of our passions, the attention fixes itself upon them, as it were spontaneously, and without any effort on our part, of which we are conscious. How perfectly do we remember, and even retain, for a long course of years, the faces and the handwritings of our acquaintances, although we never took any particular pains to fix them in the memory? On the other hand, if an object does not interest some principle of our nature, we may examine it again and again, with a wish to treasure up the knowledge of it in the mind, without our being able to command that degree of attention which may lead us to recognize it the next time we see it. A person, for example, who has not been accustomed

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very few readings with an attempt to repeat it at the end of each, than after a hundred readings without such an effort. The effort rouses the attention from that languid state in which it remains, while the mind is giving a passive reception to foreign ideas. The fact is remarked by lord Bacon, and is explained by him on the same principle to which I have referred it.

"Quæ expectantur et attentionem excitant, melius hærent "quam quæ prætervolant. Itaque si scriptum aliquod vicies "perlegeris, non tam facile illud memoriter disces, quam si "illud legas decies, tentando interim illud recitare, et ubi de- "ficit memoria, inspiciendo librum."

BACON, *Nov. Org.* lib. ii. aph. 26.

to attend particularly to horses or to cattle, may study for a considerable time the appearance of a horse or of a bullock, without being able a few days afterwards to pronounce on his identity; while a horse-dealer or a grazier recollects many hundreds of that class of animals with which he is conversant, as perfectly as he does the faces of his acquaintances. In order to account for this, I would remark, that although attention be a voluntary act, and although we are always able, when we choose, to make a momentary exertion of it; yet, unless the object to which it is directed be really interesting, in some degree, to the curiosity, the train of our ideas goes on, and we immediately forget our purpose. When we are employed, therefore, in studying such an object, it is not an exclusive and steady attention that we give to it, but we are losing sight of it, and recurring to it every instant; and the painful efforts of which we are conscious, are not (as we are apt to suppose them to be) efforts of uncommon attention, but unsuccessful attempts to keep the mind steady to its object, and to exclude the extraneous ideas, which are from time to time soliciting its notice.

If these observations be well founded, they afford an explanation of a fact which has been often remarked, that objects are easily remembered which affect any of the passions.* The passion assists the

* "Si quas res in vita videmus parvas, usitatas, quotidianas, "eas meminisse non solemus; propterea quod nulla nisi nova "aut admirabili re commovetur animus. At si quid videmus "aut audimus egregie turpe, aut honestum, insuitatum, magnum, "incredibile, ridiculum, id diu meminisse consuevimus."

Ad Herenn. lib. 3.

memory, not in consequence of any immediate connexion between them, but as it presents, during the time it continues, a steady and exclusive object to the attention.

The connexion between memory and the association of ideas is so striking, that it has been supposed by some, that the whole of its phenomena might be resolved into this principle. But this is evidently not the case. The association of ideas connects our various thoughts with each other, so as to present them to the mind in a certain order; but it presupposes the existence of these thoughts in the mind; or, in other words, it presupposes a faculty of retaining the knowledge which we acquire. It involves also a power of recognizing, as former objects of attention, the thoughts that from time to time occur to us; a power which is not implied in that law of our nature which is called the association of ideas. It is possible, surely, that our thoughts might have succeeded each other, according to the same laws as at present, without suggesting to us at all the idea of the past; and, in fact, this supposition is realised to a certain degree in the case of some old men, who retain pretty exactly the information which they receive, but are sometimes unable to recollect in what manner the particulars which they find connected together in their thoughts, at first came into the mind; whether they occurred to them in a dream, or were communicated to them in conversation.

On the other hand, it is evident, that without the associating principle, the powers of retaining our thoughts, and of recognizing them when they occur

to us, would have been of little use; for the most important articles of our knowledge might have remained latent in the mind, even when those occasions presented themselves to which they are immediately applicable. In consequence of this law of our nature, not only are all our various ideas made to pass, from time to time, in review before us, and to offer themselves to our choice as subjects of meditation, but when an occasion occurs which calls for the aid of our past experience, the occasion itself recalls to us all the information upon the subject which that experience has accumulated.

The foregoing observations comprehend an analysis of memory sufficiently accurate for my present purpose: some other remarks, tending to illustrate the same subject more completely, will occur in the remaining Sections of this Chapter.

It is hardly necessary for me to add, that when we have proceeded so far in our inquiries concerning Memory, as to obtain an analysis of that power, and to ascertain the relation in which it stands to the other principles of our constitution, we have advanced as far towards an explanation of it as the nature of the subject permits. The various theories which have attempted to account for it by traces or impressions in the sensorium, are obviously too unphilosophical to deserve a particular refutation.* Such, indeed, is the poverty of language, that we cannot speak on the subject without employing expressions which suggest one theory or another; but it is of importance for us always to recollect, that these expressions are entirely figurative, and afford

* See Note [S].

no explanation of the phenomena to which they refer. It is partly with a view to remind my readers of this consideration, that, finding it impossible to lay aside completely metaphorical or analogical words, I have studied to avoid such an uniformity in the employment of them, as might indicate a preference to one theory rather than another; and, by doing so, have perhaps sometimes been led to vary the metaphor oftener and more suddenly, than would be proper in a composition which aimed at any degree of elegance. This caution in the use of the common language concerning memory, it seemed to me the more necessary to attend to, that the general disposition which every person feels at the commencement of his philosophical pursuits, to explain the phenomena of thought by the laws of matter, is, in the case of this particular faculty, encouraged by a variety of peculiar circumstances. The analogy between committing a thing to memory that we wish to remember, and engraving on a tablet a fact that we wish to record, is so striking as to present itself even to the vulgar; nor is it perhaps less natural to indulge the fancy in considering memory as a sort of repository, in which we arrange and preserve for future use the materials of our information. The immediate dependence, too, of this faculty on the state of the body, which is more remarkable than that of any other faculty whatever, (as appears from the effects produced on it by old age, disease, and intoxication,) is apt to strike those who have not been much conversant with these inquiries, as bestowing some plausibility on the theory which attempts to explain its phenomena on mechanical principles.

I cannot help taking this opportunity of expressing a wish, that medical writers would be at more pains than they have been at hitherto, to ascertain the various effects which are produced on the memory by disease and old age. These effects are widely diversified in different cases. In some it would seem that the memory is impaired, in consequence of a diminution of the power of attention; in others, that the power of recollection is disturbed, in consequence of a derangement of that part of the constitution on which the association of ideas depends. The decay of memory, which is the common effect of age, seems to arise from the former of these causes. It is probable, that, as we advance in years, the capacity of attention is weakened by some physical change in the constitution; but it is also reasonable to think, that it loses its vigour partly from the effect which the decay of our sensibility, and the extinction of our passions, have, in diminishing the interest which we feel in the common occurrences of life. That no derangement takes place, in ordinary cases, in that part of the constitution on which the association of ideas depends, appears from the distinct and circumstantial recollection which old men retain of the transactions of their youth.* In some diseases, this part of the constitution is evidently affected. A

* Swift somewhere expresses his surprise, that old men should remember their anecdotes so distinctly, and should, notwithstanding, have so little memory as to tell the same story twice in the course of the same conversation; and a similar remark is made by Montaigne, in one of his Essays: « Surtout les Vieillards sont

stroke of the palsy has been known, (while it did not destroy the power of speech,) to render the patient incapable of recollecting the names of the most familiar objects. What is still more remarkable, the name of an object has been known to suggest the idea of it as formerly, although the sight of the object ceased to suggest the name.

In so far as this decay of memory which old age brings along with it, is a necessary consequence of a physical change in the constitution, or a necessary consequence of a diminution of sensibility, it is the part of a wise man to submit cheerfully to the lot of his nature. But it is not unreasonable to think, that something may be done by our own efforts, to obviate the inconveniences which commonly result from it. If individuals, who, in the early part of life, have weak memories, are sometimes able to remedy this defect, by a greater attention to arrangement in their transactions, and to classification among their ideas, than is necessary to the bulk of mankind, might it not be possible in the same way, to ward off, at least to a certain degree, the encroachments which time makes on this faculty? The few old men who continue in the active scenes of life to the last moment, it has been often remarked, complain in

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" dangereux, à qui la souvenance des choses passées demeure, et " ont perdu la souvenance de leurs redites."

Liv. i. cap. ix. (Des Menteurs.)

The fact seems to be, that all their old ideas remain in the mind, connected as formerly by the different associating principles; but that the power of attention to new ideas and new occurrences is impaired.

general, much less of a want of recollection, than their cotemporaries. This is undoubtedly owing partly to the effect which the pursuits of business must necessarily have, in keeping alive the power of attention. But it is probably owing also to new habits of arrangement, which the mind gradually and insensibly forms, from the experience of its growing infirmities. The apparent revival of memory in old men, after a temporary decline, (which is a case that happens not unfrequently,) seems to favour this supposition.

One old man, I have, myself, had the good fortune to know, who, after a long, an active, and an honourable life, having begun to feel some of the usual effects of advanced years, has been able to find resources in his own sagacity, against most of the inconveniences with which they are commonly attended; and who, by watching his gradual decline with the cool eye of an indifferent observer, and employing his ingenuity to retard its progress, has converted even the infirmities of age into a source of philosophical amusement.

SECTION II.

Of the Varieties of Memory in different Individuals.

It is generally supposed, that, of all our faculties Memory is that which nature has bestowed in the most unequal degrees on different individuals; and it is far from being impossible that this opinion may be well founded. If, however, we consider, that there is scarcely any man who has not memory sufficient

to learn the use of language, and to learn to recognize, at the first glance, the appearances of an infinite number of familiar objects; besides acquiring such an acquaintance with the laws of nature, and the ordinary course of human affairs, as is necessary for directing his conduct in life; we shall be satisfied that the original disparities among men, in this respect, are by no means so immense as they seem to be at first view; and that much is to be ascribed to different habits of attention, and to a difference of selection among the various objects and events presented to their curiosity.

As the great purpose to which this faculty is subservient, is to enable us to collect, and to retain, for the future regulation of our conduct, the results of our past experience; it is evident that the degree of perfection which it attains in the case of different persons, must vary; first, with the facility of making the original acquisition; secondly, with the permanence of the acquisition; and thirdly, with the quickness or readiness with which the individual is able, on particular occasions, to apply it to use. The qualities, therefore, of a good memory are, in the first place, to be susceptible; secondly, to be retentive; and thirdly, to be ready.

It is but rarely that these three qualities are united in the same person. We often, indeed, meet with a memory which is at once susceptible and ready; but I doubt much, if such memories be commonly very retentive: for, susceptibility and readiness are both connected with a facility of associating ideas, according to their more obvious relations; whereas retentiveness, or tenacicusness of memory,

depends principally on what is seldom united with this facility, a disposition to system and to philosophical arrangement. These observations it will be necessary to illustrate more particularly.

I have already remarked, in treating of a different subject, that the bulk of mankind, being but little accustomed to reflect and to generalise, associate their ideas chiefly according to their more obvious relations; those, for example, of resemblance and of analogy; and above all, according to the casual relations arising from contiguity in time and place: whereas, in the mind of a philosopher, ideas are commonly associated according to those relations which are brought to light in consequence of particular efforts of attention; such as the relations of Cause and Effect, or of Premises and Conclusion. This difference in the modes of association of these two classes of men, is the foundation of some very striking diversities between them in respect of intellectual character.

In the first place, in consequence of the nature of the relations which connect ideas together in the mind of the philosopher, it must necessarily happen, that when he has occasion to apply to use his acquired knowledge, time and reflexion will be requisite to enable him to recollect it. In the case of those, on the other hand, who have not been accustomed to scientific pursuits; as their ideas are connected together according to the most obvious relations; when any one idea of a class is presented to the mind, it is immediately followed by the others, which succeed each other spontaneously according to the laws of association. In managing, therefore,

the little details of some subaltern employment, in which all that is required, is a knowledge of forms, and a disposition to observe them, the want of a systematical genius is an important advantage; because this want renders the mind peculiarly susceptible of habits, and allows the train of its ideas to accommodate itself perfectly to the daily and hourly occurrences of its situation. But if, in this respect, men of no general principles have an advantage over the philosopher, they fall greatly below him in another point of view; inasmuch as all the information which they possess, must necessarily be limited by their own proper experience; whereas the philosopher, who is accustomed to refer every thing to general principles, is not only enabled, by means of these, to arrange the facts which experience has taught him, but by reasoning from his principles synthetically, has it often in his power to determine facts *a priori*, which he has no opportunity of ascertaining by observation.

It follows farther, from the foregoing principles, that the intellectual defects of the philosopher, are of a much more corrigible nature, than those of the mere man of detail. If the former is thrown by accident into a scene of business, more time will perhaps be necessary to qualify him for it, than would be requisite for the generality of mankind; but time and experience will infallibly, sooner or later, familiarise his mind completely with his situation. A capacity for system and for philosophical arrangement, unless it has been carefully cultivated in early life, is an acquisition which can scarcely ever be made afterwards; and, therefore, the defects which

I already mentioned, as connected with early and constant habits of business, adopted from imitation, and undirected by theory; may, when once these habits are confirmed, be pronounced to be incurable.

I am also inclined to believe, both from a theoretical view of the subject, and from my own observations as far as they have reached, that if we wish to fix the particulars of our knowledge very permanently in the memory, the most effectual way of doing it, is to refer them to general principles. Ideas which are connected together merely by casual relations, present themselves with readiness to the mind, so long as we are forced by the habits of our situation to apply them to daily use; but when a change of circumstances leads us to vary the objects of our attention, we find our old ideas gradually to escape from the recollection: and if it should happen that they escape from it altogether, the only method of recovering them, is by renewing those studies by which they were at first acquired. The case is very different with a man whose ideas, presented to him at first by accident, have been afterwards philosophically arranged and referred to general principles. When he wishes to recollect them, some time and reflexion will, frequently, be necessary to enable him to do so; but the information which he has once completely acquired, continues, in general, to be an acquisition for *life*; or if, accidentally, any article of it should be lost, it may often be recovered by a process of reasoning.

Something very similar to this happens in the study of languages. A person who acquires a foreign language merely by the ear, and without any

knowledge of its principles, commonly speaks it, while he remains in the country where it is spoken, with more readiness and fluency, than one who has studied it grammatically; but in the course of a few years absence, he finds himself almost as ignorant of it as before he acquired it. A language of which we once understand the principles thoroughly, it is hardly possible to lose by disuse.

A philosophical arrangement of our ideas is attended with another very important advantage. In a mind where the prevailing principles of association are founded on casual relations among the various objects of its knowledge, the thoughts must necessarily succeed each other in a very irregular and disorderly manner; and the occasions on which they present themselves, will be determined merely by accident. They will often occur, when they cannot be employed to any purpose; and will remain concealed from our view, when the recollection of them might be useful. They cannot therefore be considered as under our own proper command. But in the case of a philosopher, how slow soever he may be in the recollection of his ideas, he knows always where he is to search for them, so as to bring them all to bear on their proper object. When he wishes to avail himself of his past experience, or of his former conclusions, the occasion, itself, summons up every thought in his mind which the occasion requires. Or if he is called upon to exert his powers of invention, and of discovery, the materials of both are always at hand, and are presented to his view with such a degree of connexion and arrangement, as may enable him to

trace, with ease, their various relations. How much invention depends upon a patient and attentive examination of our ideas, in order to discover the less obvious relations which subsist among them, I had occasion to show, at some length, in a former Chapter.

The remarks which have been now made, are sufficient to illustrate the advantages which the philosopher derives, in the pursuits of science, from that sort of systematical memory which his habits of arrangement give him. It may however be doubted, whether such habits be equally favourable to a talent for agreeable conversation; at least, for that lively, varied, and unstudied conversation, which forms the principal charm of a promiscuous society. The conversation which pleases generally, must unite the recommendations of quickness, of ease, and of variety: and in all these three respects, that of the philosopher is apt to be deficient. It is deficient in quickness, because his ideas are connected by relations which occur only to an attentive and collected mind. It is deficient in ease, because these relations are not the casual and obvious ones, by which ideas are associated in ordinary memories; but the slow discoveries of patient, and often painful, exertion. As the ideas, too, which he associates together, are commonly of the same class, or at least are referred to the same general principles, he is in danger of becoming tedious, by indulging himself in long and systematical discourses; while another, possessed of the most inferior accomplishments, by laying his mind completely open to impressions from without, and by accommodating continually the

course of his own ideas, not only to the ideas which are started by his companions, but to every trifling and unexpected accident that may occur to give them a new direction, is the life and soul of every society into which he enters. Even the anecdotes which the philosopher has collected, however agreeable they may be in themselves, are seldom introduced by him into conversation, with that unstudied but happy propriety, which we admire in men of the world, whose facts are not referred to general principles, but are suggested to their recollection by the familiar topics and occurrences of ordinary life. Nor is it the imputation of tediousness merely, to which the systematical thinker must submit from common observers. It is but rarely possible to explain completely, in a promiscuous society, all the various parts of the most simple theory; and as nothing appears weaker or more absurd than a theory which is partially stated, it frequently happens, that men of ingenuity, by attempting it, sink, in the vulgar apprehension, below the level of ordinary understandings. "Theoriarum vires" (says Lord Bacon) "in apta et se mutuo sustinente partium "harmonia et quadam in orbem demonstratione con-"sistunt, ideoque per partes traditæ infirmæ sunt."

Before leaving the subject of Casual Memory, it may not be improper to add, that, how much soever it may disqualify for systematical speculation, there is a species of loose and rambling composition, to which it is peculiarly favourable. With such performances, it is often pleasant to unbend the mind in solitude, when we are more in the humour for conversation, than for connected thinking. Mon-

taigne is unquestionably at the head of this class of authors. "What, indeed, are his Essays," (to adopt his own account of them,) "but grotesque "pieces of patchwork, put together without any "certain figure; or any order, connexion, or pro-"portion, but what is accidental?" *

It is, however, curious, that in consequence of the predominance in his mind of this species of Memory above every other, he is forced to acknowledge his total want of that command over his ideas, which can only be founded on habits of systematical arrangement. As the passage is extremely characteristical of the author, and affords a striking confirmation of some of the preceding observations, I shall give it in his own words. "Je ne me tiens "pas bien en ma possession et disposition: le hazard "y a plus de droit que moy: l'occasion, la com-"pagnie, le branle même de ma voix tire plus de "mon esprit, que je n'y trouve lors que je sonde "et employe à part moy. Ceci m'advient aussi, "que je ne me trouve pas où je me cherche; et me "trouve plus par rencontre, que par l'inquisition de "mon jugement." †.

The differences which I have now pointed out between philosophical and casual Memory, constitute the most remarkable of all the varieties which the minds of different individuals, considered in respect to this faculty, present to our observation. But there are other varieties, of a less striking nature, the consideration of which may also suggest some useful reflexions.

* Liv. i. chap. 27.

† Liv. i. chap. 10. (Du parler prompt ou tardif.)

It was before remarked, that our ideas are frequently associated, in consequence of the associations which take place among their arbitrary signs. Indeed, in the case of all our general speculations, it is difficult to see in what other way our thoughts can be associated; for, I before endeavoured to shew, that, without the use of signs of one kind or another, it would be impossible for us to make classes or genera, objects of our attention.

All the signs by which our thoughts are expressed, are addressed either to the eye or to the ear; and the impressions made on these organs, at the time when we first receive an idea, contribute to give us a firmer hold of it. Visible objects (as I observed in the Chapter on Conception) are remembered more easily than those of any of our other senses: and hence it is, that the bulk of mankind are more aided in their recollection by the impressions made on the eye, than by those made on the ear. Every person must have remarked, in studying the elements of geometry, how much his recollection of the theorems was aided, by the diagrams which are connected with them: and I have little doubt, that the difficulty which students commonly find to remember the propositions of the fifth book of Euclid, arises chiefly from this, that the magnitudes to which they relate, are represented by straight lines, which do not make so strong an impression on the memory, as the figures which illustrate the propositions in the other five books.

This advantage, which the objects of sight naturally have over those of hearing, in the distinctness and the permanence of the impressions which

they make on the memory, continues, and even increases, through life, in the case of the bulk of mankind; because their minds, being but little addicted to general and abstract disquisition, are habitually occupied, either with the immediate perception of such objects, or with speculations in which the conception of them is more or less involved; which speculations, so far as they relate to individual things and individual events, may be carried on with little or no assistance from language.

The case is different with the philosopher, whose habits of abstraction and generalisation lay him continually under a necessity of employing words as an instrument of thought. Such habits co-operating with that inattention, which he is apt to contract to things external, must have an obvious tendency to weaken the original powers of recollection and conception with respect to visible objects; and, at the same time, to strengthen the power of retaining propositions and reasonings expressed in language. The common system of education, too, by exercising the memory so much in the acquisition of grammar rules, and of passages from the ancient authors, contributes greatly, in the case of men of letters, to cultivate a capacity for retaining words.

It is surprising, of what a degree of culture, our power of retaining a succession, even of insignificant sounds, is susceptible. Instances sometimes occur, of men who are easily able to commit to memory, a long poem, composed in a language of which they are wholly ignorant; and I have, myself, known more than one instance, of an individual, who, after having forgotten completely the classical studies of his childhood, was yet able to repeat, with

fluency, long passages from Homer and Virgil, without annexing an idea to the words that he uttered.

This susceptibility of memory with respect to words, is possessed by all men in a very remarkable degree in their early years, and is, indeed, necessary to enable them to acquire the use of language; but unless it be carefully cultivated afterwards by constant exercise, it gradually decays as we advance to maturity. The plan of education which is followed in this country, however imperfect in many respects, falls in happily with this arrangement of nature, and stores the mind richly, even in infancy, with intellectual treasures, which are to remain with it through life. The rules of grammar, which comprehend systems, more or less perfect, of the principles of the dead languages, take a permanent hold of the memory, when the understanding is yet unable to comprehend their import; and the classical remains of antiquity, which, at the time we acquire them, do little more than furnish a gratification to the ear, supply us with inexhaustible sources of the most refined enjoyment; and, as our various powers gradually unfold themselves, are poured forth, without effort, from the memory, to delight the imagination, and to improve the heart. It cannot be doubted, that a great variety of other articles of useful knowledge, particularly with respect to geographical and chronological details, might be communicated with advantage to children in the form of memorial lines. It is only in childhood, that such details can be learned with facility; and if they were once acquired, and rendered perfectly familiar to the mind, our riper years would be spared

much of that painful and uninteresting labour, which is perpetually distracting our intellectual powers, from those more important exertions, for which, in their mature state, they seem to be destined.

This tendency of literary habits in general, and more particularly of philosophical pursuits, to exercise the thoughts about words, can scarcely fail to have some effect in weakening the powers of recollection and conception with respect to sensible objects; and, in fact, I believe it will be found, that whatever advantage the philosopher may possess over men of little education, in stating general propositions and general reasonings, he is commonly inferior to them in point of minuteness and accuracy, when he attempts to describe any object which he has seen, or any event which he has witnessed; supposing the curiosity of both, in such cases, to be interested in an equal degree. I acknowledge, indeed, that the undivided attention, which men unaccustomed to reflexion are able to give to the objects of their perceptions, is, in part, the cause of the liveliness and correctness of their conceptions.

With this diversity in the intellectual habits of cultivated and of uncultivated minds, there is another variety of memory which seems to have some connexion. In recognizing visible objects, the memory of one man proceeds on the general appearance, that of another attaches itself to some minute and distinguishing marks. A peasant knows the various kinds of trees from their general habits; a botanist, from those characteristical circumstances

on which his classification proceeds. The last kind of memory is, I think, most common among literary men, and arises from their habit of recollecting by means of words. It is evidently much easier to express by a description, a number of botanical marks, than the general habit of a tree; and the same remark is applicable to other cases of a similar nature. But to whatever cause we ascribe it, there can be no doubt of the fact, that many individuals are to be found, and chiefly among men of letters, who, although they have no memory for the general appearances of objects, are yet able to retain, with correctness, an immense number of technical discriminations.

Each of these kinds of memory, has its peculiar advantages and inconveniencies, which the dread of being tedious induces me to leave to the investigation of my readers.

SECTION III.

Of the Improvement of Memory. —— Analysis of the Principles on which the Culture of Memory depends.

The improvement of which the mind is susceptible by culture, is more remarkable, perhaps, in the case of Memory, than in that of any other of our faculties. The fact has been often taken notice of in general terms; but I am doubtful if the particular mode in which culture operates on this part of our constitution, has been yet examined by philosophers with the attention which it deserves.

Of one sort of culture, indeed, of which Memory is susceptible in a very striking degree, no explanation can be given; I mean the improvement which

the original faculty acquires by mere exercise; or, in other words, the tendency which practice has to increase our natural facility of association. This effect of practice upon the memory, seems to be an ultimate law of our nature; or rather, to be a particular instance of that general law, that all our powers, both of body and mind, may be strengthened, by applying them to their proper purposes.

Besides, however, the improvement which Memory admits of, in consequence of the effects of exercise on the original faculty, it may be greatly aided in its operations, by those expedients which reason and experience suggest for employing it to the best advantage. These expedients furnish a curious subject of philosophical examination: perhaps, too, the inquiry may not be altogether without use; for, although our principal resources for assisting the memory be suggested by nature, yet it is reasonable to think, that in this, as in similar cases, by following out systematically the hints which she suggests to us, a farther preparation may be made for our intellectual improvement.

Every person must have remarked, in entering upon any new species of study, the difficulty of treasuring up in the memory its elementary principles; and the growing facility which he acquires in this respect, as his knowledge becomes more extensive. By analysing the different causes which concur in producing this facility, we may, perhaps, be led to some conclusions which may admit of a practical application.

1. In every science, the ideas about which it is peculiarly conversant, are connected together by

some particular associating principle; in one science, for example, by associations founded on the relation of cause and effect; in another by associations founded on the relations of mathematical truths; in a third, on associations founded on contiguity in place or time. Hence one cause of the gradual improvement of memory with respect to the familiar objects of our knowledge; for whatever be the prevailing associating principle among the ideas about which we are habitually occupied, it must necessarily acquire additional strength from our favourite study.

2. In proportion as a science becomes more familiar to us, we acquire a greater command of attention with respect to the objects about which it is conversant; for the information which we already possess, gives us an interest in every new truth and every new fact which have any relation to it. In most cases, our habits of inattention may be traced to a want of curiosity; and therefore such habits are to be corrected, not by endeavouring to force the attention in particular instances, but by gradually learning to place the ideas which we wish to remember, in an interesting point of view.

3. When we first enter on any new literary pursuit, we are unable to make a proper discrimination in point of utility and importance, among the ideas which are presented to us; and by attempting to grasp at every thing, we fail in making those moderate acquisitions which are suited to the limited powers of the human mind. As our information extends, our selection becomes more judicious and more confined; and our knowledge of useful and connected truths advances rapidly, from our ceas-

ing to distract the attention with such as are detached and insignificant.

4. Every object of our knowledge is related to a variety of others; and may be presented to the thoughts, sometimes by one principle of association, and sometimes by another. In proportion, therefore, to the multiplication of mutual relations among our ideas, (which is the natural result of growing information, and in particular, of habits of philosophical study,) the greater will be the number of occasions on which they will recur to the recollection, and the firmer will be the root which each idea, in particular, will take in the memory.

It follows, too, from this observation, that the facility of retaining a new fact, or a new idea, will depend on the number of relations which it bears to the former objects of our knowledge; and, on the other hand, that every such acquisition, so far from loading the memory, gives us a firmer hold of all that part of our previous information, with which it is in any degree connected.

It may not, perhaps, be improper to take this opportunity of observing, although the remark be not immediately connected with our present subject, that the accession made to the stock of our knowledge, by the new facts and ideas which we acquire, is not to be estimated merely by the number of these facts and ideas considered individually; but by the number of relations which they bear to one another, and to all the different particulars which were previously in the mind; for "new knowledge," (as Mr. Maclaurin has well remarked *,) "does not consist so

* See the Conclusion of his View of NEWTON's Discoveries.

" much in our having access to a new object, as in " comparing it with others already known, observ- " ing its relations to them, or discerning what it has " in common with them, and wherein their disparity " consists: and, therefore, our knowledge is vastly " greater than the sum of what all its objects sepa- " rately could afford; and when a new object comes " within our reach, the addition to our knowledge is " the greater, the more we already know; so that it " increases, not as the new objects increase, but in " a much higher proportion."

5. In the last place, the natural powers of Memory are, in the case of the philosopher, greatly aided by his peculiar habits of classification and arrangement. As this is by far the most important improvement of which Memory is susceptible, I shall consider it more particularly than any of the others I have mentioned.

The advantages which the memory derives from a proper classification of our ideas, may be best conceived by attending to its effects in enabling us to conduct with ease, the common business of life. In what inextricable confusion would the lawyer or the merchant be immediately involved, if he were to deposit, in his cabinet, promiscuously, the various written documents which daily and hourly pass through his hands? Nor could this confusion be prevented by the natural powers of memory, however vigorous they might happen to be. By a proper distribution of these documents, and a judicious reference of them to a few general titles, a very ordinary memory is enabled to accomplish more, than the most retentive, unassisted by method. We know,

with certainty, where to find any article we may have occasion for, if it be in our possession; and the search is confined within reasonable limits, instead of being allowed to wander at random amidst a chaos of particulars.

Or, to take an instance still more immediately applicable to our purpose: suppose that a man of letters were to record, in a common-place book, without any method, all the various ideas and facts which occurred to him in the course of his studies; what difficulties would he perpetually experience in applying his acquisitions to use? and how completely and easily might these difficulties be obviated by referring the particulars of his information to certain general heads? It is obvious, too, that, by doing so, he would not only have his knowledge much more completely under his command, but as the particulars classed together would all have some connexion, more or less, with each other, he would be enabled to trace, with advantage, those mutual relations among his ideas, which it is the object of philosophy to ascertain.

A common-place book, conducted without any method, is an exact picture of the memory of a man whose inquiries are not directed by philosophy. And the advantages of order in treasuring up our ideas in the mind, are perfectly analogous to its effects when they are recorded in writing.

Nor is this all. In order to retain our knowledge distinctly and permanently, it is necessary that we should frequently recal it to our recollection. But how can this be done without the aid of arrangement? Or supposing that it were possible, how

much time and labour would be necessary for bringing under our review the various particulars of which our information is composed? In proportion as it is properly systematised, this time and labour are abridged. The mind dwells habitually, not on detached facts, but on a comparatively small number of general principles; and, by means of these, it can summon up, as occasions may require, an infinite number of particulars associated with them; each of which, considered as a solitary truth, would have been as burthensome to the memory, as the general principle with which it is connected.

I would not wish it to be understood from these observations, that philosophy consists in classification alone; and that its only use is to assist the memory. I have often, indeed, heard this asserted in general terms; but it appears to me to be obvious, that although this be one of its most important uses, yet something more is necessary to complete the definition of it. Were the case otherwise, it would follow, that all classifications are equally philosophical, provided they are equally comprehensive. The very great importance of this subject will, I hope, be a sufficient apology for me, in taking this opportunity to correct some mistaken opinions which have been formed concerning it.

SECTION IV.

Continuation of the same Subject.—Aid which the Memory derives from Philosophical Arrangement.

It was before observed, that the great use of the faculty of Memory, is to enable us to treasure up,

for the future regulation of our conduct, the results of our past experience, and of our past reflexions. But in every case in which we judge of the future from the past, we must proceed on the belief, that there is, in the course of events, a certain degree, at least, of uniformity. And, accordingly, this belief is not only justified by experience, but (as Dr. Reid has shewn, in a very satisfactory manner,) it forms a part of the original constitution of the human mind. In the general laws of the material world, this uniformity is found to be complete; insomuch that, in the same combinations of circumstances, we expect, with the most perfect assurance, that the same results will take place. In the moral world, the course of events does not appear to be equally regular; but still it is regular, to so great a degree, as to afford us many rules of importance in the conduct of life.

A knowledge of Nature, in so far as it is absolutely necessary for the preservation of our animal existence, is obtruded on us, without any reflexion on our part, from our earliest infancy. It is thus that children learn of themselves to accommodate their conduct to the established laws of the material world. In doing so, they are guided merely by memory, and the instinctive principle of anticipation, which has just been mentioned.

In forming conclusions concerning future events, the philosopher, as well as the infant, can only build with safety on past experience; and he, too, as well as the infant, proceeds on an instinctive belief, for which he is unable to account, of the uniformity of the laws of nature. There are, however, two im-

portant respects, which distinguish the knowledge he possesses from that of ordinary men. In the first place, it is far more extensive, in consequence of the assistance which science gives to his natural powers of invention and discovery. Secondly, it is not only more easily retained in the memory, and more conveniently applied to use, in consequence of the manner in which his ideas are arranged; but it enables him to ascertain, by a process of reasoning, all those truths which may be synthetically deduced from his general principles. The illustration of these particulars will lead to some useful remarks; and will at the same time shew, that, in discussing the subject of this Section, I have not lost sight of the inquiry which occasioned it.

I. 1. It was already remarked, that the natural powers of Memory, together with that instinctive anticipation of the future from the past, which forms one of the original principles of the mind, are sufficient to enable infants, after a very short experience, to preserve their animal existence. The laws of nature, which it is not so important for us to know, and which are the objects of philosophical curiosity, are not so obviously exposed to our view, but are, in general, brought to light by means of experiments which are made for the purpose of discovery; or, in other words, by artificial combinations of circumstances, which we have no opportunity of seeing conjoined in the course of our ordinary experience. In this manner, it is evident, that many connexions may be ascertained, which would never have occurred spontaneously to our observation.

2. There are, too, some instances, particularly in the case of the astronomical phenomena, in which events, that appear to common observers to be altogether anomalous, are found, upon a more accurate and continued examination of them, to be subjected to a regular law. Such are those phenomena in the heavens, which we are able to predict by means of Cycles. In the cases formerly described, our knowledge of nature is extended by placing her in new situations. In these cases, it is extended by continuing our observations beyond the limits of ordinary curiosity.

3. In the case of human affairs, as long as we confine our attention to particulars, we do not observe the same uniformity, as in the phenomena of the material world. When, however, we extend our views to events which depend on a combination of different circumstances, such a degree of uniformity appears, as enables us to establish general rules, from which probable conjectures may often be formed with respect to futurity. It is thus, that we can pronounce, with much greater confidence, concerning the proportion of deaths which shall happen in a certain period among a given number of men, than we can predict the death of any individual; and that it is more reasonable to employ our sagacity, in speculating concerning the probable determinations of a numerous society, than concerning events which depend on the will of a single person.

In what manner this uniformity in events depending on contingent circumstances is produced, I shall not inquire at present. The advantages

which we derive from it are obvious, as it enables us to collect, from our past experience, many general rules, both with respect to the history of political societies, and the characters and conduct of men in private life.

4. In the last place; the knowledge of the philosopher is more extensive than that of other men, in consequence of the attention which he gives, not merely to objects and events, but to the *relations* which different objects and different events bear to each other.

The observations and the experience of the vulgar are almost wholly limited to things perceived by the senses. A similarity between different objects, or between different events, rouses their curiosity, and leads them to classification, and to general rules. But a similarity between different *relations*, is seldom to be traced without previous habits of philosophical inquiry. Many such similarities or connexions, however, are to be found in nature; and when once they are ascertained, they frequently lead to important discoveries; not only with respect to other relations, but with respect to the objects or to the events which are related. These remarks it will be necessary to illustrate more particularly.

The great object of Geometry is to ascertain the relations which exist between different quantities, and the connexions which exist between different relations. When we demonstrate, that the angle at the centre of a circle is double of the angle at the circumference on the same base, we ascertain a relation between two quantities. When we demonstrate, that triangles of the same altitude are

to each other as their bases, we ascertain a connexion between two relations. It is obvious, how much the mathematical sciences must contribute to enlarge our knowledge of the universe, in consequence of such discoveries. In that simplest of all processes of practical geometry, which teaches us to measure the height of an accessible tower, by comparing the length of its shadow with that of a staff fixed vertically in the ground, we proceed on the principle, that the relation between the shadow of the staff and the height of the staff is the same with the relation between the shadow of the tower and the height of the tower. But the former relation we can ascertain by actual measurement; and, of consequence, we not only obtain the other relation; but, as we can measure one of the related quantities, we obtain also the other quantity. In every case in which mathematics assists us in measuring the magnitudes or the distances of objects, it proceeds on the same principle; that is, it begins with ascertaining connexions among different relations, and thus enables us to carry our inquiries from facts which are exposed to the examination of our senses, to the most remote parts of the universe.

I observed also, that there are various relations existing among physical events, and various connexions existing among these relations. It is owing to this circumstance, that mathematics is so useful an instrument in the hands of the physical inquirer. In that beautiful theorem of Huyghens, which demonstrates, that the time of a complete oscillation of a pendulum in the cycloid, is to the time in which a body would fall through the axis of the

cycloid, as the circumference of a circle is to its diameter, we are made acquainted with a very curious and unexpected connexion between two relations; and the knowledge of this connexion facilitates the determination of a most important fact with respect to the descent of heavy bodies near the earth's surface, which could not be ascertained conveniently by a direct experiment.

In examining, with attention, the relations among different physical events, and the connexions among different relations, we sometimes are led by mere induction to the discovery of a general law; while, to ordinary observers, nothing appears but irregularity. From the writings of the earlier opticians we learn, that, in examining the first principles of dioptrics, they were led, by the analogy of the law of reflexion, to search for the relation between the angles of incidence and refraction, (in the case of light passing from one medium into another,) in the angles themselves; and that some of them, finding this inquiry unsuccessful, took the trouble to determine, by experiments, (in the case of the media which most frequently fall under consideration,) the angle of refraction corresponding to every minute of incidence. Some very laborious tables, deduced from such experiments, are to be found in the works of Kircher. At length, Snellius discovered what is now called the law of refraction, which comprehends their whole contents in a single sentence.

The law of the planetary motions, deduced by Kepler, from the observations of Tycho Brahe, is another striking illustration of the order, which an attentive inquirer is sometimes able to trace, among

the relations of physical events, when the events themselves appear, on a superficial view, to be perfectly anomalous.

Such laws are, in some respects, analogous to the cycles which I have already mentioned; but they differ from them in this, that a cycle is, commonly, deduced from observations made on physical events which are obvious to the senses; whereas the laws we have now been considering, are deduced from an examination of relations which are known only to men of science. The most celebrated astronomical cycles, accordingly, are of a very remote antiquity, and were probably discovered at a period, when the study of astronomy consisted merely in accumulating and recording the more striking appearances of the heavens.

II. Having now endeavoured to shew, how much philosophy contributes to extend our knowledge of facts, by aiding our natural powers of invention and discovery, I proceed to explain, in what manner it supersedes the necessity of studying particular truths, by putting us in possession of a comparatively small number of general principles in which they are involved.

I already remarked the assistance which philosophy gives to the memory, in consequence of the arrangement it introduces among our ideas. In this respect even a hypothetical theory may facilitate the recollection of facts; in the same manner in which the memory is aided in remembering the objects of natural history by artificial classifications.

The advantages, however, we derive from true philosophy, are incomparably greater than what are

to be expected from any hypothetical theories. These, indeed, may assist us in recollecting the particulars we are already acquainted with; but it is only from the laws of nature, which have been traced analytically from facts, that we can venture, with safety, to deduce consequences by reasoning *a priori*. An example will illustrate and confirm this observation.

Suppose that a glass tube, thirty inches long, is filled with mercury, excepting eight inches, and is inverted as in the Torricellian experiment, so that the eight inches of common air may rise to the top; and that I wish to know at what height the mercury will remain suspended in the tube, the barometer being at that time twenty-eight inches high. There is here a combination of different laws, which it is necessary to attend to, in order to be able to predict the result. 1. The air is a heavy fluid, and the pressure of the atmosphere is measured by the column of mercury in the barometer. 2. The air is an elastic fluid; and its elasticity at the earth's surface (as it resists the pressure of the atmosphere) is measured by the column of mercury in the barometer. 3. In different states, the elastic force of the air is reciprocally as the spaces which it occupies. But, in this experiment, the mercury which remains suspended in the tube, together with the elastic force of the air in the top of the tube, is a counterbalance to the pressure of the atmosphere; and therefore their joint effect must be equal to the pressure of a column of mercury twenty-eight inches high. Hence we obtain an algebraical equation, which affords an easy solution of the problem. It is further evident, that

my knowledge of the physical laws which are here combined, puts it in my power to foretel the result, not only in this case, but in all the cases of a similar nature which can be supposed. The problem, in any particular instance, might be solved by making the experiment; but the result would be of no use to me, if the slightest alteration were made on the data.

It is in this manner that philosophy, by putting us in possession of a few general facts, enables us to determine, by reasoning, what will be the result of any supposed combination of them, and thus to comprehend an infinite variety of particulars, which no memory, however vigorous, would have been able to retain. In consequence of the knowledge of such general facts the philosopher is relieved from the necessity of treasuring up in his mind, all those truths which are involved in his principles, and which may be deduced from them by reasoning; and he can often prosecute his discoveries synthetically, in those parts of the universe which he has no access to examine by immediate observation. There is, therefore, this important difference between the hypothetical theory, and a theory obtained by induction; that the latter not only enables us to remember the facts we already know, but to ascertain by reasoning, many facts which we have never had an opportunity of examining: whereas when we reason from a hypothesis *a priori*, we are almost certain of running into error; and, consequently, whatever may be its use to the memory, it can never be trusted to, in judging of cases which have not previously fallen within our experience.

There are some sciences, in which hypothetical

theories are more useful than in others; those sciences, to wit, in which we have occasion for an extensive knowledge and a ready recollection of facts, and which, at the same time, are yet in too imperfect a state to allow us to obtain just theories by the method of induction. This is particularly the case in the science of medicine, in which we are under a necessity to apply our knowledge, such as it is, to practice. It is also, in some degree, the case in agriculture. In the merely speculative parts of physics and chemistry, we may go on patiently accumulating facts, without forming any one conclusion, farther than our facts authorise us; and leave to posterity the credit of establishing the theory to which our labours are subservient. But in medicine, in which it is of consequence to have our knowledge at command, it seems reasonable to think, that hypothetical theories may be used with advantage; provided always, that they are considered merely in the light of artificial memories, and that the student is prepared to lay them aside, or to correct them, in proportion as his knowledge of nature becomes more extensive. I am, indeed, ready to confess, that this is a caution which it is more easy to give than to follow: for it is painful to change any of our habits of arrangement, and to relinquish those systems in which we have been educated, and which have long flattered us with an idea of our own wisdom. Dr. Gregory * mentions it as a striking and distinguishing circumstance in the character of Sydenham, that, although full of hypothetical reasoning, it did not render him the

* Lectures on the Duties and Qualifications of a Physician.

less attentive to observation; and that his hypotheses seem to have sat so loosely about him, that either they did not influence his practice at all, or he could easily abandon them, whenever they would not bend to his experience.

SECTION V.

Continuation of the same Subject.—Effects produced on the Memory by committing to Writing our acquired Knowledge.

HAVING treated at considerable length of the improvement of memory, it may not be improper, before leaving this part of the subject, to consider what effects are likely to be produced on the mind by the practice of committing to writing our acquired knowledge. That such a practice is unfavourable, in some respects, to the faculty of memory, by superseding, to a certain degree, the necessity of its exertions, has been often remarked, and I believe is true; but the advantages with which it is attended in other respects, are so important, as to overbalance greatly this trifling inconvenience.

It is not my intention at present to examine and compare together the different methods which have been proposed, of keeping a common-place book. In this, as in other cases of a similar kind, it may be difficult, perhaps, or impossible, to establish any rules which will apply universally. Individuals must be left to judge for themselves, and to adapt their contrivances to the particular nature of their literary pursuits, and to their own peculiar habits

of association and arrangement. The remarks which I am to offer are very general, and are intended merely to illustrate a few of the advantages which the art of writing affords to the philosopher, for recording, in the course of his progress through life, the results of his speculations, and the fruits of his experience.

The utility of writing, in enabling one generation to transmit its discoveries to another, and in thus giving rise to a gradual progress in the species, has been sufficiently illustrated by many authors. Little attention, however, has been paid to another of its effects, which is no less important; I mean, to the foundation which it lays for a perpetual progress in the intellectual powers of the individual.

It is to experience, and to our own reflexions, that we are indebted for by far the most valuable part of our knowledge; and hence it is, that although in youth the imagination may be more vigorous, and the genius more original, than in advanced years; yet, in the case of a man of observation and inquiry, the judgement may be expected, at least as long as his faculties remain in perfection, to become every day sounder and more enlightened. It is, however, only by the constant practice of writing, that the results of our experience, and the progress of our ideas, can be accurately recorded. If they are trusted merely to the memory, they will gradually vanish from it like a dream, or will come in time to be so blended with the suggestions of imagination, that we shall not be able to reason from them with any degree of confidence. What improvements in science might we not flatter our-

selves with the hopes of accomplishing, had we only activity and industry to treasure up every plausible hint that occurs to us! Hardly a day passes, when many such do not occur to ourselves, or are suggested by others: and detached and insulated, as they may appear at present, some of them may perhaps afterwards, at the distance of years, furnish the keystone of an important system.

But it is not only in this point of view that the philosopher derives advantage from the practice of writing. Without its assistance, he could seldom be able to advance beyond those simple elementary truths which are current in the world, and which form, in the various branches of science, the established creed of the age he lives in. How inconsiderable would have been the progress of mathematicians, in their more abstruse speculations, without the aid of the algebraical notation; and to what sublime discoveries have they been led by this beautiful contrivance, which, by relieving the memory of the effort necessary for recollecting the steps of a long investigation, has enabled them to prosecute an infinite variety of inquiries, to which the unassisted powers of the human mind would have been altogether unequal! In the other sciences, it is true, we have seldom or never occasion to follow out such long chains of consequences as in mathematics; but in these sciences, if the chain of investigation be shorter, it is far more difficult to make the transition from one link to another; and it is only by dwelling long on our ideas, and rendering them perfectly familiar to us, that such transitions can, in most instances, be made with

safety. In morals and politics, when we advance a step beyond those elementary truths which are daily presented to us in books or conversation, there is no method of rendering our conclusions familiar to us, but by committing them to writing, and making them frequently the subjects of our meditation. When we have once done so, these conclusions become elementary truths with respect to us; and we may advance from them with confidence to others which are more remote, and which are far beyond the reach of vulgar discovery. By following such a plan, we can hardly fail to have our industry rewarded in due time by some important improvement; and it is only by such a plan that we can reasonably hope to extend considerably the boundaries of human knowledge. I do not say that these habits of study are equally favourable to brilliancy of conversation. On the contrary, I believe that those men who possess this accomplishment in the highest degree, are such as do not advance beyond elementary truths; or rather, perhaps, who advance only a single step beyond them; that is, who think a little more deeply than the vulgar, but whose conclusions are not so far removed from common opinions, as to render it necessary for them, when called upon to defend them, to exhaust the patience of their hearers, by stating a long train of intermediate ideas. They who have pushed their inquiries much farther than the common systems of their times, and have rendered familiar to their own minds the intermediate steps by which they have been led to their conclusions, are too apt to conceive other men to be in the same situation

with themselves; and when they mean to instruct, are mortified to find that they are only regarded as paradoxical and visionary. It is but rarely we find a man of very splendid and various conversation to be possessed of a profound judgment, or of great originality of genius.

Nor is it merely to the philosopher, who wishes to distinguish himself by his discoveries, that writing affords an useful instrument of study. Important assistance may be derived from it by all those who wish to impress on their minds the investigations which occur to them in the course of their reading; for although writing may weaken (as I already acknowledged it does) a memory for detached observations, or for insulated facts, it will be found the only effectual method of fixing in it permanently, those acquisitions which involve long processes of reasoning.

When we are employed in inquiries of our own, the conclusions which we form make a much deeper and more lasting impression on the memory, than any knowledge which we imbibe passively from another. This is undoubtedly owing, in part, to the effect which the ardour of discovery has, in rousing the activity of the mind, and in fixing its attention; but I apprehend it is chiefly to be ascribed to this, that when we follow out a train of thinking of our own, our ideas are arranged in that order which is most agreeable to our prevailing habits of association. The only method of putting our acquired knowledge on a level, in this respect, with our original speculations, is, after making ourselves acquainted with our author's ideas, to study

the subject over again in our own way; to pause, from time to time, in the course of our reading, in order to consider what we have gained; to recollect what the propositions are, which the author wishes to establish, and to examine the different proofs which he employs to support them. In making such an experiment, we commonly find, that the different steps of the process arrange themselves in our minds, in a manner different from that in which the author has stated them; and that, while his argument seems, in some places, obscure, from its conciseness; it is tedious in others, from being unnecessarily expanded. When we have reduced the reasoning to that form, which appears to ourselves to be the most natural and satisfactory, we may conclude with certainty, not that this form is better in itself than another, but that it is the best adapted to our memory. Such reasonings, therefore, as we have occasion frequently to apply, either in the business of life, or in the course of our studies, it is of importance to us to commit to writing, in a language and in an order of our own; and if, at any time, we find it necessary to refresh our recollection on the subject, to have recourse to our own composition, in preference to that of any other author.

That the plan of reading which is commonly followed is very different from that which I have been recommending, will not be disputed. Most people read merely to pass an idle hour, or to please themselves with the idea of employment, while their indolence prevents them from any active exertion; and a considerable number with a view to the display

which they are afterwards to make of their literary acquisitions. From whichsoever of these motives a person is led to the perusal of books, it is hardly possible that he can derive from them any material advantage. If he reads merely from indolence, the ideas which pass through his mind will probably leave little or no impression; and if he reads from vanity, he will be more anxious to select striking particulars in the matter or expression, than to seize the spirit and scope of the author's reasoning, or to examine how far he has made any additions to the stock of useful and solid knowledge. "Though "it is scarce possible," says Dr. Butler *, "to "avoid judging in some way or other, of almost "every thing which offers itself to one's thoughts, "yet it is certain, that many persons, from different "causes, never exercise their judgment upon what "comes before them, in such a manner as to be "able to determine how far it be conclusive. They "are perhaps entertained with some things, not so "with others; they like, and they dislike; but "whether that which is proposed to be made out, be "really made out or not; whether a matter be "stated according to the real truth of the case, "seems, to the generality of people, a circumstance "of little or no importance. Arguments are often "wanted for some accidental purpose; but proof, "as such, is what they never want, for their own "satisfaction of mind, or conduct in life. Not to "mention the multitudes who read merely for the "sake of talking, or to qualify themselves for the

* See the Preface to his Sermons.

" world, or some such kind of reasons; there are " even of the few who read for their own entertain- " ment, and have a real curiosity to see what is said, " several, which is astonishing, who have no sort of " curiosity to see what is true: I say curiosity, be- " cause it is too obvious to be mentioned how much " that religious and sacred attention which is due " to truth, and to the important question, what is " the rule of life, is lost out of the world.

" For the sake of this whole class of readers, for " they are of different capacities, different kinds, " and get into this way from different occasions, I " have often wished that it had been the custom to " lay before people nothing in matters of argument " but premises, and leave them to draw conclusions " themselves; which, although it could not be " done in all cases, might in many.

" The great number of books and papers of " amusement, which, of one kind or another, daily " come in one's way, have in part occasioned, and " most perfectly fall in with and humour this idle " way of reading and considering things. By this " means, time, even in solitude, is happily got rid of " without the pain of attention; neither is any " part of it more put to the account of idleness, " (one can scarce forbear saying, is spent with less " thought,) than great part of that which is spent " in reading."

If the plan of study which I formerly described were adopted, it would undoubtedly diminish very much the number of books which it would be possible to turn over; but I am convinced that it would add greatly to the stock of useful and solid

knowledge; and by rendering our acquired ideas in some measure our own, would give us a more ready and practical command of them: not to mention, that if we are possessed of any inventive powers, such exercises would continually furnish them with an opportunity of displaying themselves upon all the different subjects which may pass under our review.

Nothing, in truth, has such a tendency to weaken, not only the powers of invention, but the intellectual powers in general, as a habit of extensive and various reading, without reflection. The activity and force of the mind are gradually impaired, in consequence of disuse; and not unfrequently all our principles and opinions come to be lost, in the infinite multiplicity and discordancy of our acquired ideas.

By confining our ambition to pursue the truth with modesty and candour, and learning to value our acquisitions only as far as they contribute to make us wiser and happier, we may perhaps be obliged to sacrifice the temporary admiration of the common dispensers of literary fame; but we may rest assured, that it is in this way only we can hope to make real progress in knowledge, or to enrich the world with useful inventions.

"It requires courage, indeed," (as Helvetius has remarked,) "to remain ignorant of those useless "subjects which are generally valued;" but it is a courage necessary to men who either love the truth, or who aspire to establish a permanent reputation.

SECTION VI.

Continuation of the same subject. — Of Artificial Memory.

By an Artificial Memory is meant, a method of connecting in the mind, things difficult to be remembered, with things easily remembered; so as to enable it to retain, and to recollect the former, by means of the latter. For this purpose, various contrivances have been proposed, but I think the foregoing definition applies to all of them.

Some sorts of artificial memory are intended to assist the natural powers of the human mind on particular occasions, which require a more than ordinary effort of recollection; for example, to assist a public speaker to recollect the arrangement of a long discourse. Others have been devised with a view to enable us to extend the circle of our acquired knowledge, and to give us a more ready command of all the various particulars of our information.

The topical Memory so much celebrated among the ancient rhetoricians, comes under the former description.

I already remarked, the effect of sensible objects in recalling to the mind the ideas with which it happened to be occupied, at the time when these objects were formerly perceived. In travelling along a road, the sight of the more remarkable scenes we meet with, frequently puts us in mind of the subjects we were thinking or talking of when we last saw them. Such facts, which are perfectly

familiar even to the vulgar, might very naturally suggest the possibility of assisting the memory, by establishing a connexion between the ideas we wish to remember, and certain sensible objects, which have been found from experience to make a permanent impression on the mind. * I have been told of a young woman, in a very low rank of life, who contrived a method of committing to memory the sermons which she was accustomed to hear, by fixing her attention, during the different heads of the discourse, on different compartments of the roof of the church; in such a manner, as that when she afterwards saw the roof, or recollected the order in which its compartments were disposed, she recollected the method which the preacher had observed in treating his subject. This contrivance was perfectly analogous to the topical memory of the ancients; an art which, whatever be the opinion we entertain of its use, is certainly entitled, in a high degree, to the praise of ingenuity.

Suppose that I were to fix in my memory the different apartments in some very large building, and that I had accustomed myself to think of these apartments always in the same invariable order. Suppose farther, that, in preparing myself for a public discourse, in which I had occasion to treat of a great variety of particulars, I was anxious to fix

* "Cum in loca aliqua post tempus reversi sumus, non ipsa "agnoscimus tantum, sed etiam, quæ in his fecerimus, remi- "niscimur, personæque subeunt, nonnunquam tacitæ quoque "cogitationes in mentem revertuntur. Nata est igitur, ut in "plerisque, ars ab experimento."

QUINCT. *Inst. Orat.* lib. xi. cap. 2.

in my memory the order I proposed to observe in the communication of my ideas. It is evident, that by a proper division of my subject into heads, and by connecting each head with a particular apartment, (which I could easily do, by conceiving myself to be sitting in the apartment while I was studying the part of my discourse I meant to connect with it,) the habitual order in which these apartments occurred to my thoughts, would present to me, in their proper arrangement, and without any effort on my part, the ideas of which I was to treat. It is also obvious, that a very little practice would enable me to avail myself of this contrivance, without any embarrassment or distraction of my attention.*

As to the utility of this art, it appears to me to depend entirely on the particular object which we suppose the speaker to have in view; whether, as was too often the case with the ancient rhetoricians, to bewilder a judge, and to silence an adversary; or fairly and candidly to lead an audience to the truth. On the former supposition, nothing can possibly give an orator a greater superiority, than the possession of a secret, which, while it enables him to express himself with facility and the appearance of method,

* In so far as it was the object of this species of artificial memory to assist an orator in recollecting the plan and arrangement of his discourse, the accounts of it, which are given by the ancient rhetoricians are abundantly satisfactory. It appears, however, that its use was more extensive; and that it was so contrived, as to facilitate the recollection of a premeditated composition. In what manner this was done, it is not easy to conjecture from the imperfect explanations of the art, which have been transmitted to modern times. The reader may consult CICERO *de Orat.* lib. ii. cap. 87, 88.—*Rhetor. ad Herennium*, lib. iii. cap. 16. et seq. —QUINCTIL. *Inst. Orat.* lib. xi. cap. 2.

puts it in his power, at the same time, to dispose his arguments and his facts, in whatever order he judges to be the most proper to mislead the judgment, and to perplex the memory, of those whom he addresses. And such, it is manifest, is the effect, not only of the topical memory of the ancients, but of all other contrivances which aid the recollection, upon any principle different from the natural and logical arrangement of our ideas.

To those, on the other hand, who speak with a view to convince or to inform others, it is of consequence that the topics which they mean to illustrate, should be arranged in an order equally favourable to their own recollection and to that of their hearers. For this purpose, nothing is effectual, but that method which is suggested by the order of their own investigations; a method which leads the mind from one idea to another, either by means of obvious and striking associations, or by those relations which connect the different steps of a clear and accurate process of reasoning. It is thus only that the attention of an audience can be completely and incessantly engaged, and that the substance of a long discourse can be remembered without effort. And it is thus only that a speaker, after a mature consideration of his subject, can possess a just confidence in his own powers of recollection, in stating all the different premises which lead to the conclusion he wishes to establish.

In modern times, such contrivances have been very little, if at all, made use of by public speakers; but various ingenious attempts have been made, to assist the memory, in acquiring and retaining those

branches of knowledge which it has been supposed necessary for a scholar to carry always about with him; and which, at the same time, from the number of particular details which they involve, are not calculated, of themselves, to make a very lasting impression on the mind. Of this sort is the Memoria Technica of Mr. Grey, in which a great deal of historical, chronological, and geographical knowledge is comprised in a set of verses, which the student is supposed to make as familiar to himself as schoolboys do the rules of grammar. These verses are, in general, a mere assemblage of proper names, disposed in a rude sort of measure; some slight alterations being occasionally made on the final syllables of the words, so as to be significant (according to certain principles laid down in the beginning of the work) of important dates, or of other particulars which it appeared to the author useful to associate with the names.

I have heard very opposite opinions with respect to the utility of this ingenious system. The prevailing opinion is, I believe, against it; although it has been mentioned in terms of high approbation by some writers of eminence. Dr. Priestley, whose judgment, in matters of this sort, is certainly entitled to respect, has said, that "it is a method so easily "learned, and which may be of so much use in recol- "lecting dates, when other methods are not at hand, "that he thinks all persons of a liberal education in- "excusable, who will not take the small degree of "pains that is necessary to make themselves masters "of it; or who think any thing mean, or unworthy

"of their notice, which is so useful and conve-
"nient."*

In judging of the utility of this, or of any other contrivance of the same kind, to a particular person, a great deal must depend on the species of memory which he has received from nature, or has acquired in the course of his early education. Some men, as I already remarked, (especially among those who have been habitually exercised in childhood in getting by heart grammar rules,) have an extraordinary facility in acquiring and retaining the most barbarous and the most insignificant verses; which another person would find as difficult to remember, as the geographical and chronological details of which it is the object of this art to relieve the memory. Allowing, therefore, the general utility of the art, no one method, perhaps, is entitled to an exclusive preference; as one contrivance may be best suited to the faculties of one person, and a very different one to those of another.

One important objection applies to all of them, that they accustom the mind to associate ideas by accidental and arbitrary connexions; and, therefore, how much soever they may contribute, in the course of conversation, to an ostentatious display of acquired knowledge, they are, perhaps, of little real service to us, when we are seriously engaged in the pursuit of truth. I own, too, I am very doubtful with respect to the utility of a great part of that information which they are commonly employed to impress on the memory, and on which the generality of learned men are disposed to value themselves.

* Lectures on History, p. 157.

It certainly is of no use, but in so far as it is subservient to the gratification of their vanity; and the acquisition of it consumes a great deal of time and attention, which might have been employed in extending the boundaries of human knowledge. To those, however, who are of a different opinion, such contrivances as Mr. Grey's may be extremely useful: and to all men they may be of service, in fixing in the memory those insulated and uninteresting particulars, which it is either necessary for them to be acquainted with, from their situation; or which custom has rendered, in the common opinion, essential branches of a liberal education. I would, in particular, recommend this author's method of recollecting dates, by substituting letters for the numeral cyphers; and forming these letters into words, and the words into verses. I have found it, at least in my own case, the most effectual of all such contrivances of which I have had experience.

SECTION VII.

Continuation of the same Subject.—Importance of making a proper Selection among the Objects of our Knowledge, in order to derive Advantage from the Acquisitions of Memory.

The cultivation of Memory, with all the helps that we can derive to it from art, will be of little use to us, unless we make a proper selection of the particulars to be remembered. Such a selection is necessary to enable us to profit by reading; and still more so, to enable us to profit by observation, to which every man is indebted for by far the most valuable part of his knowledge.

When we first enter on any new literary pursuit, we commonly find our efforts of attention painful and unsatisfactory. We have no discrimination in our curiosity; and by grasping at every thing, we fail in making those moderate acquisitions which are suited to our limited faculties. As our knowledge extends, we learn to know what particulars are likely to be of use to us; and acquire a habit of directing our examination to these, without distracting the attention with others. It is partly owing to a similar circumstance, that most readers complain of a defect of memory, when they first enter on the study of history. They cannot separate important from trifling facts, and find themselves unable to retain any thing, from their anxiety to secure the whole.

In order to give a proper direction to our attention in the course of our studies, it is useful, before engaging in particular pursuits, to acquire as familiar an acquaintance as possible with the great outlines of the different branches of science; with the most important conclusions, which have hitherto been formed in them, and with the most important desiderata which remain to be supplied. In the case too of those parts of knowledge, which are not yet ripe for the formation of philosophical systems, it may be of use to study the various hypothetical theories which have been proposed for connecting together and arranging the phenomena. By such general views alone we can prevent ourselves from being lost, amidst a labyrinth of particulars, or can engage in a course of extensive and various reading, with an enlightened and discriminating atten-

tion. While they withdraw our notice from barren and insulated facts, they direct it to such as tend to illustrate principles which have either been already established, or which, from having that degree of connexion among themselves, which is necessary to give plausibility to a hypothetical theory are likely to furnish, in time, the materials of a juster system.

Some of the followers of Lord Bacon have, I think, been led, in their zeal for the method of induction, to censure hypothetical theories with too great a degree of severity. Such theories have certainly been frequently of use, in putting philosophers upon the road of discovery. Indeed, it has probably been in this way, that most discoveries have been made; for although a knowledge of facts must be prior to the formation of a just theory, yet a hypothetical theory is generally our best guide to the knowledge of useful facts. If a man, without forming to himself any conjecture concerning the unknown laws of nature, were to set himself merely to accumulate facts at random, he might, perhaps, stumble upon some important discovery; but by far the greater part of his labours would be wholly useless. Every philosophical inquirer, before he begins a set of experiments, has some general principle in his view, which he suspects to be a law of nature*: and although his conjectures may be often

* "Recte siquidem Plato, "Qui aliquid quærit, id ipsum, "quod quærit, generali quadam notione comprehendit: aliter, "qui fieri potest, ut illud, cum fuerit inventum, agnoscat?" "Idcirco quo amplior et certior fuerit anticipatio nostra; eo "magis directa et compendiosa erit investigatio."

De Aug. Scient. lib. v. cap. 3.

wrong, yet they serve to give his inquiries a particular direction, and to bring under his eye a number of facts which have a certain relation to each other. It has been often remarked, that the attempts to discover the philosopher's stone, and the quadrature of the circle, have led to many useful discoveries in chemistry and mathematics. And they have plainly done so, merely by limiting the field of observation and inquiry, and checking that indiscriminate and desultory attention which is so natural to an indolent mind. A hypothetical theory, however erroneous, may answer a similar purpose. "Prudens interrogatio," (says Lord Bacon,) "est "dimidium scientiæ. Vaga enim experientia et "se tantum sequens mera palpatio est, et homines "potius stupefacit quam informat." What, indeed, are Newton's queries, but so many hypotheses which are proposed as subjects of examination to philosophers? And did not even the great doctrine of gravitation take its first rise from a fortunate conjecture?

While, therefore, we maintain, with the followers of Bacon, that no theory is to be admitted as proved, any farther than it is supported by facts, we should, at the same time, acknowledge our obligations to those writers who hazard their conjectures to the world with modesty and diffidence. And it may not be improper to add, that men of a systematizing turn are not now so useless as formerly; for we are already possessed of a great stock of facts; and there is scarcely any theory so bad as not to bring together a number of particulars which have a certain degree of relation or analogy to each other.

The foregoing remarks are applicable to all our various studies; whether they are conducted in the way of reading, or of observation. From neither of these two sources of information can we hope to derive much advantage, unless we have some general principles to direct our attention to proper objects.

With respect to observation, some farther cautions may be useful; for in guarding against an indiscriminate accumulation of particulars, it is possible to fall into the opposite extreme, and to acquire a habit of inattention to the phenomena which present themselves to our senses. The former is the error of men of little education; the latter is more common among men of retirement and study.

One of the chief effects of a liberal education, is to enable us to withdraw the attention from the present objects of our perceptions, and to dwell at pleasure on the past, the absent, or the future. But when we are led to carry these efforts to an excess, either from a warm and romantic imagination, or from an anxious and sanguine temper, it is easy to see that the power of observation is likely to be weakened, and habits of inattention to be contracted. The same effect may be produced by too early an indulgence in philosophical pursuits, before the mind has been prepared for the study of general truths, by exercising its faculties among particular objects, and particular occurrences. In this way, it contracts an aversion to the examination of details, from the pleasure which it has experienced in the contemplation or in the discovery of general principles. Both of these turns of thought, however, presuppose a certain degree of observ-

ation; for the materials of imagination are supplied by the senses; and the general truths which occupy the philosopher, would be wholly unintelligible to him, if he was a total stranger to all experience with respect to the course of nature and of human life. The observations, indeed, which are made by men of a warm imagination, are likely to be inaccurate and fallacious; and those of the speculative philosopher are frequently carried no farther than is necessary to enable him to comprehend the terms which relate to the subjects of his reasoning; but both the one and the other must have looked abroad occasionally at nature, and at the world; if not to ascertain facts by actual examination, at least to store their minds with ideas.

The metaphysician, whose attention is directed to the faculties and operations of the mind, is the only man who possesses within himself the materials of his speculations and reasonings. It is accordingly among this class of literary men, that habits of inattention to things external have been carried to the greatest extreme.

It is observed by Dr. Reid, that the power of reflexion, (by which he means the power of attending to the subjects of our consciousness,) is the last of our intellectual faculties which unfolds itself; and that in the greater part of mankind it never unfolds itself at all. It is a power, indeed, which being subservient merely to the gratification of metaphysical curiosity, it is not essentially necessary for us to possess, in any considerable degree. The power of observation, on the other hand, which is necessary for the preservation even of our animal

existence, discovers itself in infants long before they attain the use of speech; or rather I should have said, as soon as they come into the world; and where nature is allowed free scope, it continues active and vigorous through life. It was plainly the intention of nature, that in infancy and youth it should occupy the mind almost exclusively, and that we should acquire all our necessary information before engaging in speculations which are less essential: and accordingly this is the history of the intellectual progress, in by far the greater number of individuals. In consequence of this, the difficulty of metaphysical researches is undoubtedly much increased; for the mind being constantly occupied in the earlier part of life about the properties and laws of matter, acquires habits of inattention to the subjects of consciousness, which are not to be surmounted, without a degree of patience and perseverance of which few men are capable: but the inconvenience would evidently have been greatly increased, if the order of nature had, in this respect, been reversed, and if the curiosity had been excited at as early a period, by the phenomena of the intellectual world, as by those of the material. Of what would have happened on this supposition, we may form a judgment from those men who, in consequence of an excessive indulgence in metaphysical pursuits, have weakened, to an unnatural degree, their capacity of attending to external objects and occurrences. Few metaphysicians, perhaps, are to be found, who are not deficient in the power of observation; for, although a taste for such abstract speculations is far from

being common, it is more apt, perhaps, than any other, when it has once been formed, to take an exclusive hold of the mind, and to shut up the other sources of intellectual improvement. As the metaphysician carries within himself the materials of his reasoning, he is not under a necessity of looking abroad for subjects of speculation or amusement; and unless he be very careful to guard against the effects of his favourite pursuits, he is in more danger than literary men of any other denomination, to lose all interest about the common and proper objects of human curiosity.

To prevent any danger from this quarter, I apprehend that the study of the mind should form the last branch of the education of youth; an order which nature herself seems to point out, by what I have already remarked, with respect to the developement of our faculties. After the understanding is well stored with particular facts, and has been conversant with particular scientific pursuits, it will be enabled to speculate concerning its own powers with additional advantage, and will run no hazard of indulging too far in such inquiries. Nothing can be more absurd, on this as well as on many other accounts, than the common practice which is followed in our universities, of beginning a course of philosophical education with the study of logic. If this order were completely reversed; and if the study of logic were delayed till after the mind of the student was well stored with particular facts in physics, in chemistry, in natural and civil history; his attention might be led with the most important advantage, and without any danger to his power of

observation, to an examination of his own faculties; which, besides opening to him a new and pleasing field of speculation, would enable him to form an estimate of his own powers, of the acquisitions he has made, of the habits he has formed, and of the farther improvements of which his mind is susceptible.

In general, wherever habits of inattention, and an incapacity of observation, are very remarkable, they will be found to have arisen from some defect in early education. I already remarked, that, when nature is allowed free scope, the curiosity, during early youth, is alive to every external object, and to every external occurrence, while the powers of imagination and reflexion do not display themselves till a much later period; the former till about the age of puberty, and the latter till we approach to manhood. It sometimes, however, happens that, in consequence of a peculiar disposition of mind, or of an infirm bodily constitution, a child is led to seek amusement from books, and to lose a relish for those recreations which are suited to his age. In such instances, the ordinary progress of the intellectual powers is prematurely quickened; but that best of all educations is lost, which nature has prepared both for the philosopher and the man of the world, amidst the active sports and the hazardous adventures of childhood. It is from these alone, that we can acquire, not only that force of character which is suited to the more arduous situations of life, but that complete and prompt command of attention to things external, without which the highest endowments of the understanding, however

they may fit a man for the solitary speculations of the closet, are but of little use in the practice of affairs, or for enabling him to profit by his personal experience.

Where, however, such habits of inattention have unfortunately been contracted, we ought not to despair of them as perfectly incurable. The attention, indeed, as I formerly remarked, can seldom be forced in particular instances; but we may gradually learn to place the objects we wish to attend to, in lights more interesting than those in which we have been accustomed to view them. Much may be expected from a change of scene, and a change of pursuits; but above all, much may be expected from foreign travel. The objects which we meet with excite our surprise by their novelty; and in this manner we not only gradually acquire the power of observing and examining them with attention, but, from the effects of contrast, the curiosity comes to be roused with respect to the corresponding objects in our own country, which, from our early familiarity with them, we had formerly been accustomed to overlook. In this respect the effects of foreign travel, in directing the attention to familiar objects and occurrences, is somewhat analogous to that which the study of a dead or of a foreign language produces, in leading the curiosity to examine the grammatical structure of our own.

Considerable advantage may also be derived, in overcoming the habits of inattention, which we may have contracted to particular subjects, from studying the systems, true or false, which philosophers

have proposed for explaining or for arranging the facts connected with them. By means of these systems, not only is the curiosity circumscribed and directed, instead of being allowed to wander at random, but, in consequence of our being enabled to connect facts with general principles, it becomes interested in the examination of those particulars which would otherwise have escaped our notice.

SECTION VIII.

Of the Connexion between Memory and philosophical Genius.

It is commonly supposed, that genius is seldom united with a very tenacious memory. So far, however, as my own observation has reached, I can scarcely recollect one person who possesses the former of these qualities, without a more than ordinary share of the latter.

On a superficial view of the subject, indeed, the common opinion has some appearance of truth; for, we are naturally led, in consequence of the topics about which conversation is usually employed, to estimate the extent of memory, by the impression which trivial occurrences make upon it: and these in general escape the recollection of a man of ability, not because he is unable to retain them, but because he does not attend to them. It is probable, likewise, that accidental associations, founded on contiguity in time and place, may make but a slight impression on his mind. But it does not therefore follow, that his stock of facts is small. They are connected together in his memory by

principles of association, different from those which prevail in ordinary minds; and they are on that very account the more useful: for as the associations are founded upon real connexions among the ideas, (although they may be less conducive to the fluency, and perhaps to the wit of conversation,) they are of incomparably greater use in suggesting facts which are to serve as a foundation for reasoning or for invention.

It frequently happens too, that a man of genius, in consequence of a peculiarly strong attachment to a particular subject, may first feel a want of inclination, and may afterwards acquire a want of capacity of attending to common occurrences. But it is probable that the whole stock of ideas in his mind, is not inferior to that of other men; and that however unprofitably he may have directed his curiosity, the ignorance which he discovers on ordinary subjects does not arise from a want of memory, but from a peculiarity in the selection which he has made of the objects of his study.

Montaigne* frequently complains in his writings, of his want of memory; and he indeed gives many very extraordinary instances of his ignorance on some of the most ordinary topics of information. But it is obvious to any person who reads his works with attention, that this ignorance did not proceed from an original defect of memory, but from the singular and whimsical direction which his curiosity

* Il n'est homme à qui il siese si mal de se mesler de parler de memoire. Car je n'en recognoy quasi trace en moy; et ne pense qu'il y en ait au monde une autre si marveilleuse en defaillance. *Essais de* MONTAIGNE, liv. i. ch. 9.

had taken at an early period of life. "I can do "nothing," says he, "without my memorandum "book; and so great is my difficulty in remem- "bering proper names, that I am forced to call my "domestic servants by their offices. I am igno- "rant of the greater part of our coins in use; of "the difference of one grain from another, both "in the earth and in the granary; what use leaven "is of in making bread, and why wine must stand "some time in the vat before it ferments." Yet the same author appears evidently, from his writings, to have had his memory stored with an infinite variety of apophthegms, and of historical passages, which had struck his imagination; and to have been familiarly acquainted, not only with the names, but with the absurd and exploded opinions of the ancient philosophers; with the ideas of Plato, the atoms of Epicurus, the plenum and vacuum of Leucippus and Democritus, the water of Thales, the numbers of Pythagoras, the infinite of Parmenides, and the unity of Musæus. In complaining too of his want of presence of mind, he indirectly acknowledges a degree of memory, which, if it had been judiciously employed, would have been more than sufficient for the acquisition of all those common branches of knowledge in which he appears to have been deficient. "When I have an oration to speak," says he, "of any considerable length, I am reduced to "the miserable necessity of getting it, word for "word, by heart."

The strange and apparently inconsistent combination of knowledge and ignorance which the writings of Montaigne exhibit, led Malebranche

(who seems to have formed too low an opinion both of his genius and character) to tax him with affectation; and even to call in question the credibility of some of his assertions. But no one who is well acquainted with this most amusing author, can reasonably suspect his veracity; and, in the present instance, I can give him complete credit, not only from my general opinion of his sincerity, but from having observed, in the course of my own experience, more than one example of the same sort of combination; not indeed carried to such a length as Montaigne describes, but bearing a striking resemblance to it.

The observations which have already been made, account, in part, for the origin of the common opinion, that genius and memory are seldom united in great degrees in the same person; and at the same time shew, that some of the facts on which that opinion is founded, do not justify such a conclusion. Besides these, however, there are other circumstances, which at first view, seem rather to indicate an inconsistency between extensive memory and original genius.

The species of memory which excites the greatest degree of admiration in the ordinary intercourse of society, is a memory for detached and insulated facts; and it is certain that those men who are possessed of it, are very seldom distinguished by the higher gifts of the mind. Such a species of memory is unfavourable to philosophical arrangement; because it in part supplies the place of arrangement. One great use of philosophy, as I already shewed, is to give us an extensive com-

mand of particular truths, by furnishing us with general principles, under which a number of such truths is comprehended. A person in whose mind casual associations of time and place make a lasting impression, has not the same inducements to philosophize, with others who connect facts together, chiefly by the relations of cause and effect, or of premises and conclusion. I have heard it observed, that those men who have risen to the greatest eminence in the profession of law, have been in general such as had at first, an aversion to the study. The reason probably is, that to a mind fond of general principles, every study must be at first disgusting, which presents to it a chaos of facts apparently unconnected with each other. But this love of arrangement, if united with persevering industry, will at last conquer every difficulty; will introduce order into what seemed on a superficial view a mass of confusion, and reduce the dry and uninteresting detail of positive statutes into a system comparatively luminous and beautiful.

The observation, I believe, may be made more general, and may be applied to every science in which there is a great multiplicity of facts to be remembered. A man destitute of genius may, with little effort, treasure up in his memory a number of particulars in chemistry or natural history, which he refers to no principle, and from which he deduces no conclusion; and from his facility in acquiring this stock of information, may flatter himself with the belief that he possesses a natural taste for these branches of knowledge. But they who are really destined to extend the boundaries of

science, when they first enter on new pursuits, feel their attention distracted, and their memory overloaded with facts among which they can trace no relation, and are sometimes apt to despair entirely of their future progress. In due time, however, their superiority appears, and arises in part from that very dissatisfaction which they at first experienced, and which does not cease to stimulate their inquiries, till they are enabled to trace, amidst a chaos of apparently unconnected materials, that simplicity and beauty which always characterise the operations of nature.

There are, besides, other circumstances which retard the progress of a man of genius, when he enters on a new pursuit, and which sometimes render him apparently inferior to those who are possessed of ordinary capacity. A want of curiosity *, and of invention, facilitates greatly the acquisition of knowledge. It renders the mind passive, in receiving the ideas of others, and saves all the time which might be employed in examining their foundation, or in tracing their consequences. They who are possessed of much acuteness and originality, enter with difficulty into the views of others; not from any defect in their power of apprehension, but because they cannot adopt opinions which they have not examined; and because their attention is often seduced by their own speculations.

It is not merely in the acquisition of knowledge that a man of genius is likely to find himself sur-

* I mean a want of curiosity about truth. "There are many "men," says Dr. Butler, "who have a strong curiosity to know "what is said, who have little or no curiosity to know what is "true."

passed by others: he has commonly his information much less at command, than those who are possessed of an inferior degree of originality; and, what is somewhat remarkable, he has it least of all at command on those subjects on which he has found his invention most fertile. Sir Isaac Newton, as we are told by Dr. Pemberton, was often at a loss, when the conversation turned on his own discoveries.* It is probable that they made but a slight impression on his mind, and that a consciousness of his inventive powers prevented him from taking much pains to treasure them up in his memory. Men of little ingenuity seldom forget the ideas they acquire; because they know that when an occasion occurs for applying their knowledge to use, they must trust to memory and not to invention. Explain an arithmetical rule to a person of common understanding, who is unacquainted with the principles of the science; he will soon get the rule by heart, and become dexterous in the application of it. Another of more ingenuity, will examine the principle of the rule before he applies it to use, and will scarcely take the trouble to commit to memory a process which he knows he can, at any time, with a little reflexion, recover. The consequence will be, that, in the practice of calculation, he will appear more slow and hesitating, than if he followed the received rules of arithmetic without reflexion or reasoning.

Something of the same kind happens every day in conversation. By far the greater part of the opinions we announce in it, are not the immediate result of reasoning on the spot, but have been previously

See Note [T].

formed in the closet, or perhaps have been adopted implicitly on the authority of others. The promptitude, therefore, with which a man decides in ordinary discourse, is not a certain test of the quickness of his apprehension * ; as it may perhaps arise from those uncommon efforts to furnish the memory with acquired knowledge, by which men of slow parts endeavour to compensate for their want of invention; while, on the other hand, it is possible that a consciousness of originality may give rise to a manner apparently embarrassed, by leading the person who feels it, to trust too much to extempore exertions.†

In general, I believe, it may be laid down as a rule, that those who carry about with them a great degree of acquired information, which they have always at command, or who have rendered their own discoveries so familiar to them, as always to be

* Memoria facit prompti ingenii famam, ut illa quæ dicimus, non domo attulisse, sed ibi protinus sumpsisse videamur.

QUINCTIL. *Inst. Orat.* lib. xi. cap. 2.

† In the foregoing observations it is not meant to be implied, that originality of genius is incompatible with a ready recollection of acquired knowledge; but only that it has a tendency unfavourable to it, and that more time and practice will commonly be necessary to familiarize the mind of a man of invention to the ideas of others, or even to the conclusions of his own understanding, than are requisite in ordinary cases. Habits of literary conversation, and still more, habits of extempore discussion, in a popular assembly, are peculiarly useful in giving us a ready and practical command of our knowledge. There is much good sense in the following aphorism of Bacon: "Reading makes a "full man, writing a correct man, and speaking a ready man." See a commentary on this aphorism in one of the Numbers of the Adventurer.

in a condition to explain them, without recollection, are very seldom possessed of much invention, or even of much quickness of apprehension. A man of original genius, who is fond of exercising his reasoning powers anew on every point as it occurs to him, and who cannot submit to rehearse the ideas of others, or to repeat by rote the conclusions which he has deduced from previous reflexion, often appears, to superficial observers, to fall below the level of ordinary understandings; while another, destitute both of quickness and invention, is admired for that promptitude in his decisions, which arises from the inferiority of his intellectual abilities.

It must indeed be acknowledged in favour of the last description of men, that in ordinary conversation they form the most agreeable, and perhaps the most instructive companions. How inexhaustible soever the invention of an individual may be, the variety of his own peculiar ideas can bear no proportion to the whole mass of useful and curious information of which the world is already possessed. The conversation, accordingly, of men of genius, is sometimes extremely limited; and is interesting to the few alone, who know the value, and who can distinguish the marks of originality. In consequence too of that partiality which every man feels for his own speculations, they are more in danger of being dogmatical and disputatious, than those who have no system which they are interested to defend.

The same observations may be applied to authors. A book which contains the discoveries of one individual only, may be admired by a few, who are intimately acquainted with the history of the

science to which it relates, but it has little chance for popularity with the multitude. An author who possesses industry sufficient to collect the ideas of others, and judgment sufficient to arrange them skilfully, is the most likely person to acquire a high degree of literary fame: and although, in the opinion of enlightened judges, invention forms the chief characteristic of genius, yet it commonly happens that the objects of public admiration are men who are much less distinguished by this quality, than by extensive learning and cultivated taste. Perhaps too, for the multitude, the latter class of authors is the most useful; as their writings contain the more solid discoveries which others have brought to light, separated from those errors with which truth is often blended in the first formation of a system.

CHAPTER SEVENTH.

Of Imagination.

SECTION I.

Analysis of Imagination.

In attempting to draw the line between Conception and Imagination, I have already observed, that the province of the former is to present us with an exact transcript of what we have formerly felt and perceived; that of the latter, to make a selection of qualities and of circumstances from a variety of different objects, and by combining and disposing these, to form a new creation of its own.

According to the definitions adopted, in general, by modern philosophers, the province of Imagination would appear to be limited to objects of sight. "It is the sense of sight," (says Mr. Addison,) "which furnishes the Imagination with its ideas; "so that by the pleasures of Imagination, I here "mean such as arise from visible objects, either "when we have them actually in view, or when we "call up their ideas into our minds, by paintings, "statues, descriptions, or any the like occasions. "We cannot, indeed, have a single image in the "fancy, that did not make its first entrance through "the sight." Agreeably to the same view of the subject, Dr. Reid observes, that "Imagination "properly signifies a lively conception of objects

"of sight; the former power being distinguished "from the latter, as a part from the whole."

That this limitation of the province of Imagination to one particular class of our perceptions is altogether arbitrary, seems to me to be evident; for, although the greater part of the materials which Imagination combines be supplied by this sense, it is nevertheless indisputable, that our other perceptive faculties also contribute occasionally their share. How many pleasing images have been borrowed from the fragrance of the fields and the melody of the groves; not to mention that sister art, whose magical influence over the human frame, it has been, in all ages, the highest boast of poetry to celebrate! In the following passage, even the more gross sensations of Taste form the subject of an ideal repast, on which it is impossible not to dwell with some complacency; particularly after a perusal of the preceding lines, in which the Poet describes "the Wonders of the Torrid "Zone."

"Bear me, Pomona! to thy citron groves;
To where the lemon and the piercing lime,
With the deep orange, glowing through the green,
Their lighter glories blend. Lay me reclin'd
Beneath the spreading tamarind that shakes,
Fann'd by the breeze, its fever-cooling fruit:
Or stretch'd amid these orchards of the sun,
O let me drain the cocoa's milky bowl,
More bounteous far than all the frantic juice
Which Bacchus pours! Nor, on its slender twigs
Low bending, be the full pomegranate scorn'd;
Nor, creeping through the woods, the gelid race
Of berries. Oft in humble station dwells
Unboastful worth, above fastidious pomp.

Witness, thou best Anana, thou the pride
Of vegetable life, beyond whate'er
The poets imag'd in the golden age:
Quick let me strip thee of thy spiny coat,
Spread thy ambrosial stores, and feast with Jove!" *

What an assemblage of other conceptions different from all those hitherto mentioned, has the genius of Virgil combined in one distich!

"Hic gelidi fontes, hic mollia prata, Lycori,
Hic nemus: hic ipso tecum consumerer ævo."

These observations are sufficient to shew, how inadequate a notion of the province of Imagination (considered even in its reference to the sensible world) is conveyed by the definitions of Mr. Addison and of Dr. Reid.—But the sensible world, it must be remembered, is not the only field where Imagination exerts her powers. All the objects of human knowledge supply materials to her forming hand; diversifying infinitely the works she produces, while the mode of her operation remains essentially uniform. As it is the same power of Reasoning which enables us to carry on our investigations with respect to individual objects, and with respect to classes or genera; so it was by the same processes of Analysis and Combination, that the genius of Milton produced the Garden of Eden; that of Harrington, the Commonwealth of Oceana; and that of Shakespeare, the characters of Hamlet and Falstaff. The difference between these several efforts of invention, consists only in the manner in

* Thomson's Summer.

which the original materials were acquired; as far as the power of Imagination is concerned, the processes are perfectly analogous.

The attempts of Mr. Addison and of Dr. Reid to limit the province of Imagination to objects of sight, have plainly proceeded from a very important fact, which it may be worth while to illustrate more particularly; — That the mind has a greater facility, and, of consequence, a greater delight in recalling the perceptions of this sense than those of any of the others; while, at the same time, the variety of qualities perceived by it is incomparably greater. It is this sense, accordingly, which supplies the painter and the statuary with *all* the subjects on which their genius is exercised; and which furnishes to the descriptive poet the largest and the most valuable portion of the materials which he combines. In that absurd species of prose composition, too, which borders on poetry, nothing is more remarkable than the predominance of phrases that recal to the memory, glaring colours, and those splendid appearances of nature, which make a strong impression on the eye. It has been mentioned by different writers, as a characteristical circumstance in the Oriental or Asiatic style, that the greater part of the metaphors are taken from the celestial luminaries. "The Works of the Persians," (says M. de Voltaire,) "are like the titles of their kings, in which "we are perpetually dazzled with the sun and the "moon." Sir William Jones, in a short Essay on the Poetry of Eastern Nations, has endeavoured to shew, that this is not owing to the bad taste of the Asiatics, but to the old language and popular reli-

gion of their country. But the truth is, that the very same criticism will be found to apply to the juvenile productions of every author possessed of a warm imagination; and to the compositions of every people among whom a cultivated and philosophical taste has not established a sufficiently marked distinction between the appropriate styles of poetry and of prose. The account given by the Abbé Girard of the meaning of the word *Phébus*, as employed by the French critics, confirms strongly this observation. "Le Phébus a un brillant qui signifie, ou "semble signifier quelque chose: le soleil y entre "d'ordinaire; & c'est peut-être ce qui, en notre "langue, a donné lieu au nom de *Phébus*." *

Agreeably to these principles, Gray, in describing the infantine reveries of poetical genius, has fixed, with exquisite judgment, on this class of our conceptions:

> Yet oft before his infant eye would run
> Such Forms as glitter in the Muse's ray
> With Orient hues——

From these remarks it may be easily understood, why the word *Imagination*, in its most ordinary acceptation, should be applied to cases where our conceptions are derived from the sense of sight; although the province of this power be, in fact, as unlimited as the sphere of human enjoyment and of human thought. Hence, the origin of those partial definitions which I have been attempting to correct; and hence too, the origin of the word *Imagination*; the etymology of which implies manifestly a reference to visible objects.

* Synonymes François.

To all the various modes in which Imagination may display itself, the greater part of the remarks contained in this Chapter will be found to apply, under proper limitations; but, in order to render the subject more obvious to the reader's examination, I shall, in the farther prosecution of it, endeavour to convey my ideas, rather by means of particular examples, than in the form of general principles; leaving it to his own judgment to determine, with what modifications the conclusions to which we are led, may be extended to other combinations of circumstances.

Among the innumerable phenomena which this part of our constitution presents to our examination, the combinations which the mind forms out of materials supplied by the power of Conception recommend themselves strongly, both by their simplicity, and by the interesting nature of the discussions to which they lead. I shall avail myself, therefore, as much as possible, in the following inquiries, of whatever illustrations I am able to borrow from the arts of Poetry and of Painting; the operations of Imagination in these arts furnishing the most intelligible and pleasing exemplifications of the intellectual processes, by which, in those analogous but less palpable instances that fall under the consideration of the Moralist, the mind deviates from the models presented to it by experience, and forms to itself, new and untried objects of pursuit. It is in consequence of such processes (which, how little soever they may be attended to, are habitually passing in the thoughts of all men,) that human

affairs exhibit so busy and so various a scene; tending, in one case, to improvement, and, in another, to decline; according as our notions of excellence and of happiness are just or erroneous.

It was observed, in a former part of this work, that Imagination is a complex power. * It includes Conception or simple Apprehension, which enables us to form a notion of those former objects of perception, or of knowledge, out of which we are to make a selection; Abstraction, which separates the selected materials from the qualities and circumstances which are connected with them in nature; and Judgment or Taste, which selects the materials, and directs their combination. To these powers, we may add, that particular habit of association to which I formerly gave the name of Fancy; as it is this which presents to our choice, all the different materials which are subservient to the efforts of Imagination, and which may therefore be considered as forming the ground-work of poetical genius.

To illustrate these observations, let us consider the steps by which Milton must have proceeded in creating his imaginary Garden of Eden. When he first proposed to himself that subject of description, it is reasonable to suppose, that a variety of the most striking scenes which he had seen, crowded into his mind. The association of ideas suggested them, and the power of Conception placed each of them before him with all its beauties and imperfections. In every natural scene, if we destine it for any particular purpose, there are defects and redundancies,

* See p. 136.

which art may sometimes, but cannot always, correct. But the power of Imagination is unlimited. She can create and annihilate; and dispose, at pleasure, her woods, her rocks, and her rivers. Milton, accordingly, would not copy his Eden from any one scene, but would select from each the features which were most eminently beautiful. The power of Abstraction enabled him to make the separation, and Taste directed him in the selection. Thus he was furnished with his materials; by a skilful combination of which, he has created a landscape, more perfect probably in all its parts, than was ever realised in nature; and certainly very different from any thing which this country exhibited, at the period when he wrote. It is a curious remark of Mr. Walpole, that Milton's Eden is free from the defects of the old English garden, and is imagined on the same principles which it was reserved for the present age to carry into execution.

From what has been said, it is sufficiently evident, that Imagination is not a simple power of the mind, like Attention, Conception, or Abstraction; but that it is formed by a combination of various faculties. It is farther evident, that it must appear under very different forms, in the case of different individuals; as some of its component parts are liable to be greatly influenced by habit, and other accidental circumstances. The variety, for example, of the materials out of which the combinations of the Poet or the Painter are formed, will depend much on the tendency of external situation, to store the mind with a multiplicity of Conceptions; and the beauty of these combinations will depend entirely on the success

with which the power of Taste has been cultivated. What we call, therefore, the power of Imagination, is not the gift of nature, but the result of acquired habits, aided by favourable circumstances. It is not an original endowment of the mind, but an accomplishment formed by experience and situation; and which, in its different gradations, fills up all the interval between the first efforts of untutored genius, and the sublime creations of Raphael or of Milton.

An uncommon degree of Imagination constitutes *poetical genius;* a talent which, although chiefly displayed in poetical composition, is also the foundation (though not precisely in the same manner) of various other Arts. A few remarks on the relation which Imagination bears to some of the most interesting of these, will throw additional light on its nature and office.

SECTION II.

Of Imagination considered in its Relation to some of the Fine Arts.

AMONG the Arts connected with Imagination, some not only take their rise from this power, but produce objects which are addressed to it. Others take their rise from Imagination, but produce objects which are addressed to the power of Perception.

To the latter of these two classes of Arts, belongs that of Gardening; or, as it has been lately called, the Art of creating Landscape. In this Art, the designer is limited in his creation by nature; and his

only province is to correct, to improve, and to adorn. As he cannot repeat his experiments, in order to observe the effect, he must call up, in his imagination, the scene which he means to produce; and apply to this imaginary scene his taste and his judgment; or, in other words, to a lively conception of visible objects, he must add a power (which long experience and attentive observation alone can give him) of judging beforehand, of the effect which they would produce, if they were actually exhibited to his senses. This power forms, what Lord Chatham beautifully and expressively called *the prophetic Eye of Taste;* that eye which (if I may borrow the language of Mr. Gray) "sees all the "beauties that a place is susceptible of, long before "they are born; and when it plants a seedling, "already sits under the shade of it, and enjoys the "effect it will have, from every point of view that "lies in the prospect."* But although the artist who creates a landscape, copies it from his imagination, the scene which he exhibits is addressed to the senses, and may produce its full effect on the minds of others, without any effort on their part, either of imagination or of conception.

To prevent being misunderstood, it is necessary for me to remark, that, in the last observation, I speak merely of the natural effects produced by a landscape, and abstract entirely from the pleasure which may result from an accidental association of ideas with a particular scene. The effect resulting from such associations will depend, in a great mea-

* GRAY'S Works, by MASON, p. 277.

sure, on the liveliness with which the associated objects are conceived, and on the affecting nature of the pictures which a creative imagination, when once roused, will present to the mind; but the pleasures thus arising from the accidental exercise that a landscape may give to the imagination, must not be confounded with those which it is naturally fitted to produce.

In Painting, (excepting in those instances in which it exhibits a faithful copy of a particular object,) the original idea must be formed in the imagination: and, in most cases, the exercise of imagination must concur with perception, before the picture can produce that effect on the mind of the spectator which the artist has in view. Painting, therefore, does not belong entirely to either of the two classes of Arts formerly mentioned, but has something in common with them both.

As far as the Painter aims at copying exactly what he sees, he may be guided mechanically by general rules; and he requires no aid from that creative genius which is characteristical of the Poet. The pleasure, however, which results from painting, considered merely as an imitative art, is extremely trifling; and is specifically different from that which it aims to produce, by awakening the imagination. Even in portrait-painting, the servile copyist of nature is regarded in no higher light than that of a tradesman. "Deception," (as Reynolds has excellently observed,) "instead of "advancing the art, is, in reality, carrying it back "to its infant state. The first essays of painting "were certainly nothing but mere imitations of in-

"dividual objects; and when this amounted to "a deception, the artist had accomplished his purpose."*

When the history or the landscape Painter indulges his genius, in forming new combinations of his own, he vies with the Poet in the noblest exertion of the poetical art: and he avails himself of his professional skill, as the Poet avails himself of language, only to convey the ideas in his mind. To deceive the eye by accurate representations of particular forms, is no longer his aim; but, by the touches of an expressive pencil, to speak to the imaginations of others. Imitation, therefore, is not the end which he proposes to himself, but the means which he employs in order to accomplish it: nay, if the imitation be carried so far as to preclude all exercise of the spectator's imagination, it will disappoint, in a great measure, the purpose of the artist.

In Poetry, and in every other species of composition, in which one person attempts, by means of language, to present to the mind of another, the objects of his own imagination; this power is necessary, though not in the same degree, to the author and to the reader. When we peruse a description, we naturally feel a disposition to form, in our own minds, a distinct picture of what is described; and in proportion to the attention and interest which the subject excites, the picture becomes steady and determinate. It is scarcely possible for us to hear much of a particular town, without forming some notion of its figure and size and situation;

* Notes on MASON's Translation of FRESNOY's Poem on the Art of Painting, p. 114.

and in reading history and poetry, I believe it seldom happens, that we do not annex imaginary appearances to the names of our favourite characters. It is, at the same time, almost certain, that the imaginations of no two men coincide upon such occasions; and, therefore, though both may be pleased, the agreeable impressions which they feel, may be widely different from each other, according as the pictures by which they are produced are more or less happily imagined. Hence it is, that when a person accustomed to dramatic reading sees, for the first time, one of his favourite characters represented on the stage, he is generally dissatisfied with the exhibition, however eminent the actor may be; and if he should happen, before this representation, to have been very familiarly acquainted with the character, the case may continue to be the same through life. For my own part, I have never received from any Falstaff on the stage, half the pleasure which Shakespeare gives me in the closet; and I am persuaded, that I should feel some degree of uneasiness, if I were present at any attempt to personate the figure or the voice of Don Quixote or Sancho Panca. It is not always that the actor on such occasions, falls short of our expectation. He disappoints us, by exhibiting something different from what our imagination had anticipated, and which consequently appears to us, at the moment, to be an unfaithful representation of the Poet's idea: and until a frequent repetition of the performance has completely obliterated our former impressions, it is impossible for us to form an adequate estimate of its merit.

Similar observations may be applied to other subjects. The sight of any natural scene, or of any work of art, provided we have not previously heard of it, commonly produces a greater effect, at first, than ever afterwards: but if, in consequence of a description, we have been led to form a previous notion of it, I apprehend, the effect will be found less pleasing, the first time it is seen, than the second. Although the description should fall short greatly of the reality, yet the disappointment which we feel, on meeting with something different from what we expected, diminishes our satisfaction. The second time we see the scene, the effect of novelty is indeed less than before; but it is still considerable, and the imagination now anticipates nothing which is not realised in the perception.

The remarks which have been made, afford a satisfactory reason why so few are to be found who have a genuine relish for the beauties of poetry. The designs of Kent and of Brown evince in their authors a degree of imagination entirely analogous to that of the descriptive poet; but when they are once executed, their beauties (excepting those which result from association) meet the eye of every spectator. In poetry the effect is inconsiderable, unless upon a mind which possesses some degree of the author's genius; a mind amply furnished by its previous habits, with the means of interpreting the language which he employs; and able, by its own imagination, to co-operate with the efforts of his art.

It has been often remarked, that the general words which express complex ideas, seldom convey

precisely the same meaning to different individuals, and that hence arises much of the ambiguity of language. The same observation holds, in no inconsiderable degree, with respect to the names of sensible objects. When the words River, Mountain, Grove, occur in a description, a person of lively conceptions, naturally thinks of some particular river, mountain, and grove, that have made an impression on his mind; and whatever the notions are, which he is led by his imagination to form of these objects, they must necessarily approach to the standard of what he has seen. Hence it is evident that, according to the different habits and education of individuals; according to the liveliness of their conceptions, and according to the creative power of their imaginations, the same words will produce very different effects on different minds. When a person who has received his education in the country, reads a description of a rural retirement; the house, the river, the woods, to which he was first accustomed, present themselves spontaneously to his conception, accompanied, perhaps, with the recollection of his early friendships, and all those pleasing ideas which are commonly associated with the scenes of childhood and of youth. How different is the effect of the description upon his mind, from what it would produce on one who has passed his tender years at a distance from the beauties of nature, and whose infant sports are connected in his memory with the gloomy alleys of a commercial city!

But it is not only in interpreting the particular words of a description, that the powers of Imagin-

ation and Conception are employed. They are farther necessary for filling up the different parts of that picture, of which the most minute describer can only trace the outline. In the best description, there is much left to the reader to supply; and the effect which it produces on his mind will depend, in a considerable degree, on the invention and taste with which the picture is finished. It is therefore possible, on the one hand, that the happiest efforts of poetical genius may be perused with perfect indifference by a man of sound judgment, and not destitute of natural sensibility; and on the other hand, that a cold and common-place description may be the means of awakening, in a rich and glowing imagination, a degree of enthusiasm unknown to the author.

All the different arts which I have hitherto mentioned as taking their rise from the imagination, have this in common, that their primary object is to please. This observation applies to the art of Poetry, no less than to the others; nay, it is this circumstance which characterises Poetry, and distinguishes it from all the other classes of literary composition. The object of the Philosopher is to inform and enlighten mankind; that of the Orator, to acquire an ascendant over the will of others, by bending to his own purposes their judgments, their imaginations, and their passions: but the primary and the distinguishing aim of the Poet is, *to please;* and the principal resource which he possesses for this purpose, is by addressing the imagination. Sometimes, indeed, he may seem to encroach on the province of the Philosopher or of the Orator; but, in these in-

stances, he only borrows from them the means by which he accomplishes his end. If he attempts to enlighten and to inform, he addresses the understanding only as a vehicle of pleasure: if he makes an appeal to the passions, it is only to passions which it is pleasing to indulge. The Philosopher, in like manner, in order to accomplish his end of instruction, may find it expedient, occasionally, to amuse the imagination, or to make an appeal to the passions: the Orator may, at one time, state to his hearers a process of reasoning; at another, a calm narrative of facts; and, at a third, he may give the reins to poetical fancy. But still the ultimate end of the Philosopher is to instruct, and of the Orator to persuade; and whatever means they make use of which are not subservient to this purpose, are out of place, and obstruct the effect of their labours.

The measured composition in which the Poet expresses himself, is only one of the means which he employs to please. As the delight which he conveys to the imagination, is heightened by the other agreeable impressions, which he can unite in the mind at the same time; he studies to bestow, upon the medium of communication which he employs, all the various beauties, of which it is susceptible. Among these beauties, the harmony of numbers is not the least powerful; for its effect is constant, and does not interfere with any of the other pleasures which language produces. A succession of agreeable perceptions is kept up by the organical effect of words upon the ear; while they inform the understanding by their perspicuity and precision, or please the imagination by the pictures they suggest,

or touch the heart by the associations they awaken. Of all these charms of language, the Poet may avail himself; and they are all so many instruments of his art. To the Philosopher and the Orator they may *occasionally* be of use; and to both they must be *constantly* so far an object of attention, that nothing may occur in their compositions, which may distract the thoughts, by offending either the ear or the taste; but the Poet must not rest satisfied with this negative praise. Pleasure is the end of his art: and the more numerous the sources of it which he can open, the greater will be the effect produced by the efforts of his genius.

The province of the poet is limited only by the variety of human enjoyments. Whatever is in the reality subservient to our happiness, is a source of pleasure, when presented to our conceptions, and may sometimes derive from the heightenings of imagination, a momentary charm, which we exchange with reluctance for the substantial gratifications of the senses. The province of the painter, and of the statuary, is confined to the imitation of visible objects, and to the exhibition of such intellectual and moral qualities, as the human body is fitted to express. In ornamental architecture, and in ornamental gardening, the sole aim of the artist is to give pleasure to the eye, by the beauty or sublimity of material forms. But to the poet all the glories of external nature; all that is amiable or interesting, or respectable in human character; all that excites and engages our benevolent affections; all those truths which make the heart feel itself better and more happy; all these supply materials, out of which he

forms and peoples a world of his own, where no inconveniences damp our enjoyments, and where no clouds darken our prospects.

That the pleasures of poetry arise chiefly from the agreeable feelings which it conveys to the mind, by awakening the imagination, is a proposition which may seem too obvious to stand in need of proof. As the ingenious Inquirer, however, into "the Origin of our Ideas of the Sublime and Beautiful," has disputed the common notions upon this subject, I shall consider some of the principal arguments by which he has supported his opinion.

The leading principle of the theory which I am now to examine is, "That the common effect of "poetry is not to raise ideas of things;" or, as I would rather chuse to express it, its common effect is not to give exercise to the powers of conception and imagination. That I may not be accused of misrepresentation, I shall state the doctrine at length in the words of the author. "If words have all "their possible extent of power, three effects arise "in the mind of the hearer. The first is the *sound;* "the second, the *picture*, or representation of the "thing signified by the sound; the third is, the "*affection* of the soul produced by one or by both "of the foregoing. Compounded abstract words, "(honour, justice, liberty, and the like:) produce "the first and the last of these effects, but not the "second. Simple abstracts are used to signify some "one simple idea, without much adverting to others "which may chance to attend it; as blue, green, "hot, cold, and the like: these are capable of ef-"fecting all three of the purposes of words; as the

" aggregate words, man, castle, horse, &c. are in a " yet higher degree. But I am of opinion, that the " most general effect even of these words does not " arise from their forming pictures of the several " things they would represent in the imagination; " because, on a very diligent examination of my own " mind, and getting others to consider theirs, I do " not find that once in twenty times any such pic- " ture is formed; and when it is, there is most com- " monly a particular effort of the imagination for " that purpose. But the aggregate words operate, " as I said of the compound abstracts, not by pre- " senting any image to the mind, but by having from " use the same effect on being mentioned, that their " original has when it is seen. Suppose we were to " read a passage to this effect: " The river Danube " rises in a moist and mountainous soil in the heart " of Germany, where, winding to and fro, it waters " several principalities, until turning into Austria, " and leaving the walls of Vienna, it passes into " Hungary; there with a vast flood, augmented by " the Saave and the Drave, it quits Christendom, " and rolling through the barbarous countries which " border on Tartary, it enters by many mouths into " the Black Sea." In this description many things " are mentioned; as mountains, rivers, cities, the " sea, &c. But let any body examine himself, and " see whether he has had impressed on his imagin- " ation any pictures of a river, mountain, watery " soil, Germany, &c. Indeed, it is impossible, in " the rapidity and quick succession of words in " conversation, to have ideas both of the sound of " the word, and of the thing represented; besides,

" some words expressing real essences, are so " mixed with others of a general and nominal im- " port, that it is impracticable to jump from sense " to thought, from particulars to generals, from " things to words, in such a manner as to answer " the purposes of life; nor is it necessary that we " should."

In farther confirmation of this doctrine, Mr. Burke refers to the poetical works of the late amiable and ingenious Dr. Blacklock. " *Here,*" says he, " *is a poet, doubtless as much affected by* " *his own descriptions, as any that reads them can* " *be;* and yet he is affected with this strong en- " thusiasm, by things of which he neither has, nor " can possibly have, any idea, farther than that of " a bare sound; and why may not those who read " his works be affected in the same manner that he " was, with as little of any real ideas of the things " described?"

Before I proceed to make any remarks on these passages, I must observe in general, that I perfectly agree with Mr. Burke, in thinking that a very great proportion of the words which we habitually employ, have no effect to " raise ideas " in the mind;" or to exercise the powers of conception and imagination. My notions on this subject I have already sufficiently explained in treating of Abstraction.

I agree with him farther, that a great proportion of the words which are used in poetry and eloquence, produce very powerful effects on the mind, by exciting emotions which we have been accustomed to associate with particular sounds;

without leading the imagination to form to itself any pictures or representations: and his account of the manner in which such words operate, appears to me satisfactory. "Such words are in reality but "mere sounds; but they are sounds, which, being "used on particular occasions, wherein we receive "some good, or suffer some evil; or see others "affected with good or evil; or which we hear ap- "plied to other interesting things or events; and "being applied in such a variety of cases, that we "know readily by habit to what things they belong, "they produce in the mind, whenever they are "afterwards mentioned, effects similar to those "of their occasions. The sounds being often used "without reference to any particular occasion, and "carrying still their first impressions, they at last "utterly lose their connexion with the particular "occasions that gave rise to them; yet the sound, "without any annexed notion, continues to ope- "rate as before."

Notwithstanding, however, these concessions, I cannot admit that it is in this way poetry produces its principal effect. Whence is it that general and abstract expressions are so tame and lifeless, in comparison of those which are particular and figurative? Is it not because the former do not give any exercise to the imagination, like the latter? Whence the distinction, acknowledged by all critics, ancient and modern, between that charm of words which evaporates in the process of translation, and those permanent beauties, which presenting to the mind the distinctness of a picture, may impart pleasure to the most remote regions and ages? Is it not,

that in the one case, the Poet addresses himself to associations which are local and temporary; in the other, to those essential principles of human nature, from which Poetry and Painting derive their common attractions? Hence, among the various sources of the sublime, the peculiar stress laid by Longinus on what he calls *Visions*, (Φαντασίαι) — ὅταν ἃ λέγῃς, ὑπ' ἐνθουσιασμοῦ καὶ πάθους βλέπειν δοκῇς, καὶ ὑπ' ὄψιν τιθῇς τοῖς ἀκούουσιν. *

In treating of Abstraction I formerly remarked, that the perfection of philosophical style is to approach as nearly as possible to that species of language we employ in algebra, and to exclude every expression which has a tendency to divert the attention by exciting the imagination, or to bias the judgment by casual associations. For this purpose the Philosopher ought to be sparing in the employment of figurative words, and to convey his notions by general terms which have been accurately defined. To the Orator, on the other hand, when he wishes to prevent the cool exercise of the understanding, it may, on the same account, be frequently useful to delight or to agitate his hearers, by blending with his reasonings the illusions of poetry, or the magical influence of sounds consecrated by popular feelings. A regard to the different ends thus aimed at in Philosophical and in Rhetorical composition, renders the ornaments which are so becoming in the one, inconsistent

* De Sublim. § xv. — Quas φαντασίας Græci vocant, nos sanè *Visiones* appellamus; per quas imagines rerum absentium ita repræsentantur animo, ut eas cernere oculis ac præsentes habere videamur. QUINCT. INST. Orat. vi. 2.

with good taste and good sense, when adopted in the other.

In Poetry, as truths and facts are introduced, not for the purpose of information, but to convey pleasure to the mind, nothing offends more, than those general expressions which form the great instrument of philosophical reasoning. The original pleasures, which it is the aim of poetry to recal to the mind, are all derived from individual objects; and, of consequence, (with a very few exceptions, which it does not belong to my present subject to enumerate,) the more particular, and the more appropriated its language is, the greater will be the charm it possesses.

With respect to the description of the course of the Danube already quoted, I shall not dispute the result of the experiment to be as the author represents it. That words may often be applied to their proper purposes, without our annexing any particular notions to them, I have formerly shewn at great length; and I admit that the meaning of this description may be so understood. But to be understood, is not the sole object of the poet: his primary object, is to please; and the pleasure which he conveys will, in general, be found to be proportioned to the beauty and liveliness of the images which he suggests. In the case of a poet born blind, the effect of poetry must depend on other causes; but whatever opinion we may form on this point, it appears to me impossible, that such a poet should receive, even from his own descriptions, the same degree of pleasure which they may convey to a reader, who is capable of conceiving the

scenes which are described. Indeed this instance which Mr. Burke produces in support of his theory, is sufficient of itself to shew, that the theory cannot be true in the extent in which it is stated.

By way of contrast to the description of the Danube, I shall quote a stanza from Gray, which affords a very beautiful example of the two different effects of poetical expression. The pleasure conveyed by the two last lines resolves almost entirely into Mr. Burke's principles; but, great as this pleasure is, how inconsiderable is it in comparison of that arising from the continued and varied exercise which the preceding lines give to the imagination?

"In climes beyond the solar road,
"Where shaggy forms o'er ice-built mountains roam,
"The muse has broke the twilight-gloom,
"To cheer the shiv'ring native's dull abode.
"And oft, beneath the od'rous shade
"Of Chili's boundless forests laid,
"She deigns to hear the savage youth repeat,
"In loose numbers wildly sweet,
"Their feather-cinctur'd chiefs, and dusky loves.
"Her track where'er the goddess roves,
"Glory pursue, and generous shame,
"Th' unconquerable mind, and freedom's holy flame."

I cannot help remarking further, the effect of the solemn and uniform flow of the verse in this exquisite stanza, in retarding the pronunciation of the reader; so as to arrest his attention to every successive picture, till it has time to produce its proper impression. More of the charm of poetical rythm arises from this circumstance, than is commonly imagined.

To those who wish to study the theory of poetical expression, no author in our language affords a

richer variety of illustrations than the poet last quoted. His merits, in many other respects, are great; but his skill in this particular is more peculiarly conspicuous. How much he had made the principles of this branch of his art an object of study, appears from his letters published by Mr. Mason.

I have sometimes thought, that in the last line of the following passage, he had in view the two different effects of words already described; the effect of some, in awakening the powers of Conception and Imagination; and that of others, in exciting associated emotions:

> "Hark, his hands the lyre explore!
> "Bright-ey'd Fancy hovering o'er,
> "Scatters from her pictur'd urn,
> "Thoughts that breathe, and words, that burn."——

SECTION III.

Continuation of the same Subject. — Relation of Imagination and of Taste to Genius.

From the remarks made in the foregoing Sections, it is obvious, in what manner a person accustomed to analise and combine his conceptions, may acquire an idea of beauties superior to any which he has seen realised. It may also be easily inferred, that a habit of forming such intellectual combinations, and of remarking their effects on our own minds, must contribute to refine and to exalt the Taste, to a degree which it never can attain in those men, who study to improve it by the observation and comparison of external objects only.

A cultivated Taste, combined with a creative Imagination, constitutes Genius in the Fine Arts. Without taste, imagination could produce only a random analysis and combination of our conceptions; and without imagination, taste would be destitute of the faculty of invention. These two ingredients of genius may be mixed together in all possible proportions; and where either is possessed in a degree remarkably exceeding what falls to the ordinary share of mankind, it may compensate in some measure for a deficiency in the other. An uncommonly correct taste, with little imagination, if it does not produce works which excite admiration, produces at least nothing which can offend. An uncommon fertility of imagination, even when it offends, excites our wonder by its creative power; and shews what it could have performed, had its exertions been guided by a more perfect model.

In the infancy of the Arts, an union of these two powers in the same mind is necessary for the production of every work of genius. Taste, without imagination, is, in such a situation, impossible; for, as there are no monuments of ancient genius on which it can be formed, it must be the result of experiments, which nothing but the imagination of every individual can enable him to make. Such a taste must necessarily be imperfect, in consequence of the limited experience of which it is the result; but, without imagination, it could not have been acquired even in this imperfect degree.

In the progress of the Arts the case comes to be altered. The productions of genius accumulate to such an extent, that taste may be formed by a care-

ful study of the works of others; and, as formerly imagination had served as a necessary foundation for taste, so taste begins now to invade the province of imagination. The combinations which the latter faculty has been employed in making, during a long succession of ages, approach to infinity; and present such ample materials to a judicious selection, that with a high standard of excellence, continually present to the thoughts, industry, assisted by the most moderate degree of imagination, will, in time, produce performances, not only more free from faults, but incomparably more powerful in their effects, than the most original efforts of untutored genius, which, guided by an uncultivated taste, copies after an inferior model of perfection. What Reynolds observes of Painting, may be applied to all the other Fine Arts: that, "as the Painter, by "bringing together in one piece, those beauties, "which are dispersed amongst a great variety of in- "dividuals, produces a figure more beautiful than "can be found in nature; so that artist who can "unite in himself the excellencies of the various "painters, will approach nearer to perfection than "any of his masters." *.

* P. 226.

SECTION IV.

Of the Influence of Imagination on Human Character and Happiness.

HITHERTO we have considered the power of Imagination chiefly as it is connected with the Fine Arts. But it deserves our attention still more, on account of its extensive influence on human character and happiness.

The lower animals, as far as we are able to judge, are entirely occupied with the objects of their present perceptions: and the case is nearly the same with the inferior orders of our own species. One of the principal effects which a liberal education produces on the mind, is to accustom us to withdraw our attention from the objects of sense, and to direct it, at pleasure, to those intellectual combinations which delight the imagination. Even, however, among men of cultivated understandings, this faculty is possessed in very unequal degrees by different individuals; and these differences (whether resulting from original constitution or from early education) lay the foundation of some striking varieties in human character.

What we commonly call sensibility, depends, in a great measure, on the power of imagination. Point out to two men, any object of compassion; — a man, for example, reduced by misfortune from easy circumstances to indigence. The one feels merely in proportion to what he perceives by his senses. The other follows, in imagination, the unfortunate man to his dwelling, and partakes with him and his

family in their domestic distresses. He listens to their conversation, while they recal to remembrance the flattering prospects they once indulged; the circle of friends they had been forced to leave; the liberal plans of education which were begun and interrupted; and pictures out to himself all the various resources which delicacy and pride suggest, to conceal poverty from the world. As he proceeds in the painting, his sensibility increases, and he weeps, not for what he sees, but for what he imagines. It will be said, that it was his sensibility which originally roused his imagination; and the observation is undoubtedly true; but it is equally evident, on the other hand, that the warmth of his imagination increases and prolongs his sensibility.

This is beautifully illustrated in the Sentimental Journey of Sterne. While engaged in a train of reflections on the State prisons in France, the accidental sight of a starling in a cage suggests to him the idea of a captive in his dungeon. He indulges his imagination, "and looks through the "twilight of the grated door to take the picture."

"I beheld," (says he,) "his body half-wasted "away with long expectation and confinement, and "felt what kind of sickness of the heart it is, which "arises from hope deferred. Upon looking nearer, "I saw him pale and feverish: in thirty years the "western breeze had not once fanned his blood: "he had seen no sun, no moon, in all that time, "nor had the voice of friend or kinsman breathed "through his lattice. —— His children —— But "here my heart began to bleed, and I was forced "to go on with another part of the portrait.

" He was sitting upon the ground, in the farthest " corner of his dungeon, on a little straw, which " was alternately his chair and bed: a little calen- " dar of small sticks was laid at the head, notched " all over with the dismal days and nights he had " passed there: — he had one of these little sticks " in his hand, and with a rusty nail he was etching " another day of misery to add to the heap. As I " darkened the little light he had, he lifted up a " hopeless eye towards the door, then cast it down " — shook his head, and went on with his work " of affliction."

The foregoing observations may account, in part, for the effect which exhibitions of fictitious distress produce on some persons, who do not discover much sensibility to the distresses of real life. In a Novel or a Tragedy, the picture is complely finished in all its parts; and we are made acquainted not only with every circumstance on which the distress turns, but with the sentiments and feelings of every character, with respect to his situation. In real life we see, in general, only detached scenes of the Tragedy; and the impression is slight, unless imagination finishes the characters, and supplies the incidents that are wanting.

It is not only to scenes of distress that imagination increases our sensibility. It gives us a double share in the prosperity of others, and enables us to partake, with a more lively interest, in every fortunate incident that occurs either to individuals or to communities. Even from the productions of the earth, and the vicissitudes of the year, it carries forward our thoughts to the enjoyments they bring to

the sensitive creation, and by interesting our benevolent affections in the scenes we behold, lends a new charm to the beauties of nature.

I have often been inclined to think, that the apparent coldness and selfishness of mankind may be traced, in a great measure, to a want of attention and a want of imagination. In the case of misfortunes which happen to ourselves, or to our near connexions, neither of these powers is necessary to make us acquainted with our situation; so that we feel, of necessity, the correspondent emotions. But without an uncommon degree of both, it is impossible for any man to comprehend completely the situation of his neighbour, or to have an idea of a great part of the distress which exists in the world. If we feel therefore more for ourselves than for others, the difference is to be ascribed, at least partly, to this; that, in the former case, the facts which are the foundation of our feelings, are more fully before us than they possibly can be in the latter.

In order to prevent misapprehensions of my meaning, it is necessary for me to add, that I do not mean to deny that it is a law of our nature, in cases in which there is an interference between our own interest and that of other men, to give a certain degree of preference to ourselves; even supposing our neighbour's situation to be as completely known to us as our own. I only affirm, that, where this preference becomes blameable and unjust, the effect is to be accounted for partly in the way I mentioned. * One striking proof of this is, the power-

* I say partly; for habits of inattention to the situation of other men, undoubtedly presuppose some defect in the social affections.

ful emotions which may be occasionally excited in the minds of the most callous, when the attention has been once fixed, and the imagination awakened, by eloquent and circumstantial and pathetic description.

A very amiable and profound moralist, in the account which he has given of the origin of our sense of justice, has, I think, drawn a less pleasing picture of the natural constitution of the human mind, than is agreeable to truth. "To disturb" (says he) "the happiness of our neighbour, merely because "it stands in the way of our own; to take from him "what is of real use to him, merely because it may "be of equal or of more use to us; or, to indulge "in this manner, at the expence of other people, "the natural preference which every man has for "his own happiness above that of other people, is "what no impartial spectator can go along with. "Every man is, no doubt, first and principally re- "commended to his own care; and as he is fitter "to take care of himself than of any other person, "it is fit and right that it should be so. Every man, "therefore, is much more deeply interested in what- "ever immediately concerns himself, than in what "concerns any other man: and to hear, perhaps, "of the death of another person with whom we have "no particular connexion, will give us less concern, "will spoil our stomach, or break our rest, much "less than a very insignificant disaster which has "befallen ourselves. But though the ruin of our "neighbour may affect us much less than a very "small misfortune of our own, we must not ruin "him to prevent that small misfortune, nor even to

" prevent our own ruin. We must here, as in al
" other cases, view ourselves not so much according
" to that light in which we may naturally appear to
" ourselves, as according to that in which we natu-
" rally appear to others. Though every man may,
" according to the proverb, be the whole world to
" himself, to the rest of mankind he is a most in-
" significant part of it. Though his own happiness
" may be of more importance to him than that of all
" the world besides, to every other person it is of no
" more consequence than that of any other man.
" Though it may be true, therefore, that every in-
" dividual, in his own breast, naturally prefers him-
" self to all mankind, yet he dares not look mankind
" in the face, and avow that he acts according to
" this principle. He feels that, in this preference
" they can never go along with him, and that how
" natural soever it may be to him, it must always
" appear excessive and extravagant to them. When
" he views himself in the light in which he is con-
" scious that others will view him, he sees that to
" them he is but one of the multitude, in no re-
" spect better than any other in it. If he would act
" so as that the impartial spectator may enter into
" the principles of his conduct, which is what of all
" things he has the greatest desire to do, he must,
" upon this, as upon all other occasions, humble
" the arrogance of his self-love, and bring it down to
" something which other men can go along with."

I am ready to acknowledge, that there is much truth in this passage; and that a prudential regard to the opinion of others, might teach a man of good sense, without the aid of more amiable motives, to

conceal his unreasonable partialities in favour of himself, and to act agreeably to what he conceives to be the sentiments of impartial spectators. But I cannot help thinking, that the fact is much too strongly stated with respect to the natural partiality of self-love, supposing the situation of our neighbours to be as completely presented to our view, as our own must of necessity be. When the Orator wishes to combat the selfish passions of his audience, and to rouse them to a sense of what they owe to mankind; what mode of persuasion does nature dictate to him? Is it to remind them of the importance of the good opinion of the world, and of the necessity, in order to obtain it, of accommodating their conduct to the sentiments of others, rather than to their own feelings? Such considerations undoubtedly might, with some men, produce a certain effect; and might lead them to assume the appearance of virtue; but they would never excite a sentiment of indignation at the thought of injustice, or a sudden and involuntary burst of disinterested affection. If the Orator can only succeed in fixing their attention to facts, and in bringing these facts home to their imagination by the power of his eloquence, he has completely attained his object. No sooner are the facts apprehended, than the benevolent principles of our nature display themselves in all their beauty. The most cautious and timid lose, for a moment, all thought of themselves, and despising every consideration of prudence or of safety, become wholly engrossed with the fortunes of others.

Many other facts, which are commonly alledged

as proofs of the original selfishness of mankind, may be explained, in part, in a similar way; and may be traced to habits of inattention, or to a want of imagination, arising, probably, from some fault in early education.

What has now been remarked with respect to the social principles, may be applied to all our other passions, excepting those which take their rise from the body. They are commonly strong in proportion to the warmth and vigour of the imagination.

It is, however, extremely curious, that when an imagination, which is naturally phlegmatic, or which, like those of the vulgar, has little activity from a want of culture, is fairly roused by the descriptions of the Orator or of the Poet, it is more apt to produce the violence of enthusiasm, than in minds of a superior order. By giving this faculty occasional exercise, we acquire a great degree of command over it. As we can withdraw the attention at pleasure from objects of sense, and transport ourselves into a world of our own, so when we wish to moderate our enthusiasm, we can dismiss the objects of imagination, and return to our ordinary perceptions and occupations. But in a mind to which these intellectual visions are not familiar, and which borrows them completely from the genius of another, imagination, when once excited, becomes perfectly ungovernable, and produces something like a temporary insanity. Hence the wonderful effects of popular eloquence on the lower orders; effects which are much more remarkable, than what it ever produces on men of education.

SECTION V.

Continuation of the same Subject. — Inconveniences resulting from an ill-regulated Imagination.

It was undoubtedly the intention of nature, that the objects of perception should produce much stronger impressions on the mind than its own operations. And, accordingly they always do so, when proper care has been taken in early life to exercise the different principles of our constitution. But it is possible, by long habits of solitary reflection, to reverse this order of things, and to weaken the attention to sensible objects to so great a degree, as to leave the conduct almost wholly under the influence of imagination. Removed to a distance from society, and from the pursuits of life, when we have been long accustomed to converse with our own thoughts, and have found our activity gratified by intellectual exertions, which afford scope to all our powers and affections, without exposing us to the inconveniences resulting from the bustle of the world, we are apt to contract an unnatural predilection for meditation, and to lose all interest in external occurrences. In such a situation too, the mind gradually loses that command which education, when properly conducted, gives it over the train of its ideas; till at length the most extravagant dreams of imagination acquire as powerful an influence in exciting all its passions, as if they were realities. A wild and mountainous country, which presents but a limited variety of objects, and these only of such a sort as "awake to solemn

"thought," has a remarkable effect in cherishing this enthusiasm.

When such disorders of the imagination have been long confirmed by habit, the evil may perhaps be beyond a remedy; but in their inferior degrees, much may be expected from our own efforts; in particular, from mingling gradually in the business and amusements of the world; or, if we have sufficient force of mind for the exertion, from resolutely plunging into those active and interesting and hazardous scenes, which, by compelling us to attend to external circumstances, may weaken the impressions of imagination, and strengthen those produced by realities. The advice of the poet, in these cases, is equally beautiful and just:

"Go, soft enthusiast! quit the cypress groves,
"Nor to the rivulet's lonely moanings tune
"Your sad complaint. Go, seek the cheerful haunts
"Of men, and mingle with the bustling crowd;
"Lay schemes for wealth, or power, or fame, the wish
"Of nobler minds, and push them night and day.
"Or join the caravan in quest of scenes
"New to your eyes, and shifting every hour,
"Beyond the Alps, beyond the Appenines.
"Or, more adventurous, rush into the field
"Where war grows hot; and raging through the sky,
"The lofty trumpet swells the madd'ning soul;
"And in the hardy camp and toilsome march,
"Forget all softer and less manly cares." *

The disordered state of mind to which these observations refer is the more interesting, that it is chiefly incident to men of uncommon sensibility and genius. It has been often remarked, that

* Armstrong.

there is a connexion between genius and melancholy; and there is one sense of the word *melancholy*, in which the remark is undoubtedly true; a sense which it may be difficult to define, but in which it implies nothing either gloomy or malevolent. * This, I think, is not only confirmed by facts, but may be inferred from some principles which were formerly stated on the subject of invention; for as the disposition now alluded to has a tendency to retard the current of thought, and to collect the attention of the mind, it is peculiarly favourable to the discovery of those profound conclusions which result from an accurate examination of the less obvious relations among our ideas. From the same principles too, may be traced some of the effects which situation and early education produce on the intellectual character. Among the natives of wild and solitary countries we may expect to meet with sublime exertions of poetical imagination and of philosophical research; while those men whose attention has been dissipated from infancy amidst the bustle of the world, and whose current of thought has been trained to yield and accommodate itself, every moment, to the rapid succession of trifles, which diversify fashionable life, acquire, without any effort on their part, the intellectual habits which are favourable to gaiety, vivacity, and wit.

When a man, under the habitual influence of a warm imagination, is obliged to mingle occasionally

* Διὰ τι πάντες ὅσοι περιττοὶ γεγονασιν ανδρες, ἡ κατὰ φιλοσοφιαν, ἡ πολιτικὴν, ἡ ποιησιν, ἡ τεχνας, φαινονται μελαγχολικοι οντες.

ARISTOT. Problem. sect. XXX.

in the scenes of real business, he is perpetually in danger of being misled by his own enthusiasm. What we call good sense in the conduct of life, consists chiefly in that temper of mind which enables its possessor to view, at all times, with perfect coolness and accuracy, all the various circumstances of his situation; so that each of them may produce its due impression on him without any exaggeration arising from his own peculiar habits. But to a man of an ill-regulated imagination, external circumstances only serve as hints to excite his own thoughts, and the conduct he pursues has, in general, far less reference to his real situation, than to some imaginary one, in which he conceives himself to be placed: in consequence of which, while he appears to himself to be acting with the most perfect wisdom and consistency, he may frequently exhibit to others all the appearances of folly. Such, pretty nearly, seems to be the idea which the Author * of the "Reflexions on the "Character and Writings of Rousseau," has formed of that extraordinary man. "His faculties," we are told "were slow in their operation, but his "heart was ardent: it was in consequence of his "own meditations that he became impassioned: he "discovered no sudden emotions, but all his feel-"ings grew upon reflexion. It has, perhaps, hap-"pened to him to fall in love gradually with a "woman, by dwelling on the idea of her during "her absence. Sometimes he would part with "you with all his former affection; but if an ex-"pression had escaped you, which might bear an

* Madame de STAEL HOLSTEIN.

" unfavourable construction, he would recollect it, " examine it, exaggerate it, perhaps dwell upon it " for a month, and conclude by a total breach with " you. Hence it was, that there was scarce a pos- " sibility of undeceiving him; for the light which " broke in upon him at once was not sufficient to " efface the wrong impressions which had taken " place so gradually in his mind. It was extremely " difficult, too, to continue long on an intimate " footing with him. A word, a gesture, furnished " him with matter of profound meditation: he " connected the most trifling circumstances like so " many mathematical propositions, and conceived " his conclusions to be supported by the evidence " of demonstration. I believe," continues this ingenious writer, " that imagination was the strong- " est of his faculties, and that it had almost absorbed " all the rest. He dreamed rather than existed, " and the events of his life might be said, more " properly, to have passed in his mind, than with- " out him: a mode of being, one should have " thought, that ought to have secured him from " distrust, as it prevented him from observation; " but the truth was, it did not hinder him from at- " tempting to observe; it only rendered his ob- " servations erroneous. That his soul was tender, " no one can doubt, after having read his works; " but his imagination sometimes interposed be- " tween his reason and his affections, and destroyed " their influence: he appeared sometimes void of " sensibility; but it was because he did not per- " ceive objects such as they were. Had he seen

"them with our eyes, his heart would have been "more affected than ours."

In this very striking description we see the melancholy picture of sensibility and genius approaching to insanity. It is a case, probably, that but rarely occurs, in the extent here described: but, I believe, there is no man who has lived much in the world, who will not trace many resembling features to it, in the circle of his own acquaintances: perhaps there are few, who have not been occasionally conscious of some resemblance to it in themselves.

To these observations we may add, that by an excessive indulgence in the pleasures of imagination, the taste may acquire a fastidious refinement unsuitable to the present situation of human nature; and those intellectual and moral habits, which ought to be formed by actual experience of the world, may be gradually so accommodated to the dreams of poetry and romance, as to disqualify us for the scene in which we are destined to act. Such a distempered state of the mind is an endless source of error; more particularly when we are placed in those critical situations, in which our conduct determines our future happiness or misery; and which, on account of this extensive influence on human life, form the principal ground-work of fictitious composition. The effect of novels, in misleading the passions of youth, with respect to the most interesting and important of all relations, is one of the many instances of the inconveniences resulting from an ill-regulated imagination.

The passion of love has been, in every age, the favourite subject of the poets, and has given birth to the finest productions of human genius. These are the natural delight of the young and susceptible, long before the influence of the passions is felt; and from these a romantic mind forms to itself an ideal model of beauty and perfection, and becomes enamoured with its own creation. On a heart which has been long accustomed to be thus warmed by the imagination, the excellencies of real characters make but a slight impression: and, accordingly, it will be found, that men of a romantic turn, unless when under the influence of violent passions, are seldom attached to a particular object. Where, indeed, such a turn is united with a warmth of temperament, the effects are different; but they are equally fatal to happiness. As the distinctions which exist among real characters are confounded by false and exaggerated conceptions of ideal perfection, the choice is directed to some object by caprice and accident; a slight resemblance is mistaken for an exact coincidence; and the descriptions of the poet and novelist are applied literally to an individual, who perhaps falls short of the common standard of excellence. "I am certain," says the Author last quoted, in her account of the character of Rousseau, "that he never formed an "attachment which was not founded on caprice. "It was illusions alone that could captivate his "passions; and it was necessary for him always to "accomplish his mistress from his own fancy. I "am certain also," she adds, "that the woman "whom he loved the most, and perhaps the only

"woman whom he loved constantly, was his own "*Julie.*"

In the case of this particular passion, the effects of a romantic imagination are obvious to the most careless observer; and they have often led moralists to regret, that a temper of mind so dangerous to happiness should have received so much encouragement from some writers of our own age, who might have employed their genius to better purposes. These, however, are not the only effects which such habits of study have on the character. Some others, which are not so apparent at first view, have a tendency, not only to mislead us where our own happiness is at stake, but to defeat the operation of those active principles, which were intended to unite us to society. The manner in which imagination influences the mind, in the instances which I allude to at present, is curious, and deserves a more particular explanation.

I shall have occasion afterwards to shew*, in treating of our moral powers, that experience diminishes the influence of passive impressions on the mind, but strengthens our active principles. A course of debauchery deadens the sense of pleasure, but increases the desire of gratification. An immoderate use of strong liquors destroys the sensibility of the palate, but strengthens the habit of intemperance. The enjoyments we derive from any favourite pursuit gradually decay as we advance in years: and yet we continue to prosecute

* The following reasoning was suggested to me by a passage in Butler's Analogy, which the reader will find in Note [U] at the end of the volume.

our favourite pursuits with increasing steadiness and vigour.

On these two laws of our nature is founded our capacity of moral improvement. In proportion as we are accustomed to obey our sense of duty, the influence of the temptations to vice is diminished; while, at the same time, our habit of virtuous conduct is confirmed. How many passive impressions, for instance, must be overcome, before the virtue of beneficence can exert itself uniformly and habitually! How many circumstances are there in the distresses of others, which have a tendency to alienate our hearts from them, and which prompt us to withdraw from the sight of the miserable! The impressions we receive from these are unfavourable to virtue: their force, however, every day diminishes, and it may, perhaps, by perseverance, be wholly destroyed. It is thus that the character of the beneficent man is formed. The passive impressions which he felt originally, and which counteracted his sense of duty, have lost their influence, and a habit of beneficence is become part of his nature.

It must be owned, that this reasoning may, in part, be retorted; for among those passive impressions, which are weakened by repetition, there are some which have a beneficial tendency. The uneasiness, in particular, which the sight of distress occasions, is a strong incentive to acts of humanity; and it cannot be denied that it is lessened by experience. This might naturally lead us to expect, that the young and unpractised would be more disposed to perform beneficent actions, than those who are advanced in life, and who have been familiar with

scenes of misery. And, in truth, the fact would be so, were it not that the effect of custom on this passive impression is counteracted by its effects on others; and, above all, by its influence in strengthening the active habit of beneficence. An old and experienced physician is less affected by the sight of bodily pain, than a younger practitioner; but he has acquired a more confirmed habit of assisting the sick and helpless, and would offer greater violence to his nature, if he should with-hold from them any relief that he has in his power to bestow. In this case, we see a beautiful provision made for our moral improvement, as the effects of experience on one part of our constitution are made to counteract its effects on another.

If the foregoing observations be well founded, it will follow, that habits of virtue are not to be formed in retirement, but by mingling in the scenes of active life, and that an habitual attention to exhibitions of fictitious distress, is not merely useless to the character, but positively hurtful.

It will not, I think, be disputed, that the frequent perusal of pathetic compositions diminishes the uneasiness which they are naturally fitted to excite. A person who indulges habitually in such studies, may feel a growing desire of his usual gratification, but he is every day less and less affected by the scenes which are presented to him. I believe it would be difficult to find an actor long hackneyed on the stage, who is capable of being completely interested by the distresses of a tragedy. The effect of such compositions and representations, in rendering the mind callous to actual distress, is still

greater; for as the imagination of the Poet almost always carries him beyond truth and nature, a familiarity with the tragic scenes which he exhibits, can hardly fail to deaden the impression produced by the comparatively trifling sufferings which the ordinary course of human affairs presents to us. In real life, a provision is made for this gradual decay of sensibility, by the proportional decay of other passive impressions, which have an opposite tendency, and by the additional force which our active habits are daily acquiring. Exhibitions of fictitious distress, while they produce the former change on the character, have no influence in producing the latter: on the contrary, they tend to strengthen those passive impressions which counteract beneficence. The scenes into which the Novelist introduces us are, in general, perfectly unlike those which occur in the world. As his object is to please, he removes from his descriptions every circumstance which is disgusting, and presents us with histories of elegant and dignified distress. It is not such scenes that human life exhibits. We have to act, not with refined and elevated characters, but with the mean, the illiterate, the vulgar, and the profligate. The perusal of fictitious history has a tendency to increase that disgust which we naturally feel at the concomitants of distress, and to cultivate a false refinement of taste, inconsistent with our condition as members of society. Nay, it is possible for this refinement to be carried so far, as to withdraw a man from the duties of life, and even from the sight of those distresses which he might alleviate. And, accordingly, many are to be found, who

if the situations of romance were realised, would not fail to display the virtues of their favourite characters, whose sense of duty is not sufficiently strong to engage them in the humble and private scenes of human misery.

To these effects of fictitious history we may add, that it gives no exercise to our active habits. In real life, we proceed from the passive impression to those exertions which it was intended to produce. In the contemplation of imaginary sufferings, we stop short at the impression, and whatever benevolent dispositions we may feel, we have no opportunity of carrying them into action.

From these reasonings it appears, that an habitual attention to exhibitions of fictitious distress, is in every view calculated to check our moral improvement. It diminishes that uneasiness which we feel at the sight of distress, and which prompts us to relieve it. It strengthens that disgust which the loathsome concomitants of distress excite in the mind, and which prompts us to avoid the sight of misery; while, at the same time, it has no tendency to confirm those habits of active beneficence, without which, the best dispositions are useless. I would not, however, be understood to disapprove entirely of fictitious narratives, or of pathetic compositions. On the contrary, I think that the perusal of them may be attended with advantage, when the effects which I have mentioned are corrected by habits of real business. They soothe the mind when ruffled by the rude intercourse of society, and stealing the attention insensibly from our own cares, substitute, instead of discontent and distress, a tender and

pleasing melancholy. By exhibitions of characters a little elevated above the common standard, they have a tendency to cultivate the taste in life; to quicken our disgust at what is mean or offensive, and to form the mind insensibly to elegance and dignity. Their tendency to cultivate the powers of moral perception has never been disputed; and when the influence of such perceptions is powerfully felt, and is united with an active and manly temper, they render the character not only more amiable, but more happy in itself, and more useful to others; for although a rectitude of judgment with respect to conduct, and strong moral feelings, do, by no means, alone constitute virtue; yet they are frequently necessary to direct our behaviour in the more critical situations of life; and they increase the interest we take in the general prosperity of virtue in the world. I believe, likewise, that, by means of fictitious history, displays of character may be most successfully given, and the various weaknesses of the heart exposed. I only mean to insinuate, that a taste for them may be carried too far; that the sensibility which terminates in imagination, is but a refined and selfish luxury; and that nothing can effectually advance our moral improvement, but an attention to the active duties which belong to our stations.

SECTION VI.

Continuation of the same Subject. Important Uses to which the Power of Imagination is subservient.

THE faculty of imagination is the great spring of human activity, and the principal source of human

improvement. As it delights in presenting to the mind scenes and characters more perfect than those which we are acquainted with, it prevents us from ever being completely satisfied with our present condition, or with our past attainments; and engages us continually in the pursuit of some untried enjoyment, or of some ideal excellence. Hence the ardour of the selfish to better their fortunes, and to add to their personal accomplishments; and hence the zeal of the Patriot and the Philosopher to advance the virtue and the happiness of the human race. Destroy this faculty, and the condition of man will become as stationary as that of the brutes.

When the notions of enjoyment or of excellence which imagination has formed, are greatly raised above the ordinary standard, they interest the passions too deeply to leave us at all times the cool exercise of reason, and produce that state of the mind which is commonly known by the name of Enthusiasm; a temper which is one of the most fruitful sources of error and disappointment; but which is a source, at the same time, of heroic actions and of exalted characters. To the exaggerated conceptions of eloquence which perpetually revolved in the mind of Cicero; to that idea which haunted his thoughts of *aliquid immensum infinitumque;* we are indebted for some of the most splendid displays of human genius; and it is probable that something of the same kind has been felt by every man who has risen much above the level of humanity, either in speculation or in action. It is happy for the individual, when these enthusiastic desires are directed to events which do not depend on the caprice of fortune.

The pleasure we receive from the higher kinds of poetry takes rise, in part, from that dissatisfaction which the objects of imagination inspire us with, for the scenes, the events, and the characters, with which our senses are conversant. Tired and disgusted with this world of imperfection, we delight to escape to another of the poet's creation, where the charms of nature wear an eternal bloom, and where sources of enjoyment are opened to us, suited to the vast capacities of the human mind. On this natural love of poetical fiction, Lord Bacon has founded a very ingenious argument for the soul's immortality; and, indeed, one of the most important purposes to which it is subservient, is to elevate the mind above the pursuits of our present condition, and to direct the views to higher objects. In the mean time, it is rendered subservient also, in an eminent degree, to the improvement and happiness of mankind, by the tendency which it has to accelerate the progress of society.

As the pictures which the poet presents to us are never (even in works of pure description) faithful copies from nature, but are always meant to be improvements on the original she affords, it cannot be doubted that they must have some effect in refining and exalting our taste, both with respect to material beauty, and to the objects of our pursuit in life. It has been alledged, that the works of our descriptive poets have contributed to diffuse that taste for picturesque beauty, which is so prevalent in England, and to recal the public admiration from the fantastic decorations of art, to the more powerful and permanent charms of cultivated nature; and

it is certain, that the first ardours of many an illustrious character have been kindled by the compositions of Homer and Virgil. It is difficult to say, to what a degree, in the earlier periods of society, the rude compositions of the bard and the minstrel may have been instrumental in humanizing the minds of savage warriors, and in accelerating the growth of cultivated manners. Among the Scandinavians and the Celtæ we know that this order of men was held in very peculiar veneration; and, accordingly, it would appear, from the monuments which remain of these nations, that they were distinguished by a delicacy in the passion of love, and by a humanity and generosity to the vanquished in war, which seldom appear among barbarous tribes; and with which it is hardly possible to conceive how men in such a state of society could have been inspired, but by a separate class of individuals in the community, who devoted themselves to the pacific profession of poetry, and to the cultivation of that creative power of the mind, which anticipates the course of human affairs; and presents, in prophetic vision, to the poet and the philosopher, the blessings which accompany the progress of reason and refinement.

Nor must we omit to mention the important effects of imagination in multiplying the sources of innocent enjoyment, beyond what this limited scene affords. Not to insist on the nobler efforts of genius, which have rendered this part of our constitution subservient to moral improvement; how much has the sphere of our happiness been extended by those agreeable fictions which introduce us to new worlds, and make us acquainted with

new orders of being! What a fund of amusement, through life, is prepared for one who reads, in his childhood, the fables of ancient Greece! They dwell habitually on the memory, and are ready, at all times, to fill up the intervals of business, or of serious reflexion; and in his hours of rural retirement and leisure, they warm his mind with the fire of ancient genius, and animate every scene he enters, with the offspring of classical fancy.

It is, however, chiefly in painting future scenes that Imagination loves to indulge herself, and her prophetic dreams are almost always favourable to happiness. By an erroneous education, indeed, it is possible to render this faculty an instrument of constant and of exquisite distress; but in such cases (abstracting from the influence of a constitutional melancholy) the distresses of a gloomy imagination are to be ascribed not to nature, but to the force of early impressions.

The common bias of the mind undoubtedly is, (such is the benevolent appointment of Providence,) to think favourably of the future; to overvalue the chances of possible good, and to under-rate the risks of possible evil; and in the case of some fortunate individuals, this disposition remains after a thousand disappointments. To what this bias of our nature is owing, it is not material for us to inquire: the fact is certain, and it is an important one to our happiness. It supports us under the real distresses of life, and cheers and animates all our labours: and although it is sometimes apt to produce, in a weak and indolent mind, those deceitful suggestions of ambition and vanity, which

lead us to sacrifice the duties and the comforts of the present moment, to romantic hopes and expectations; yet it must be acknowledged, when connected with habits of activity, and regulated by a solid judgment, to have a favourable effect on the character, by inspiring that ardour and enthusiasm which both prompt to great enterprises, and are necessary to ensure their success. When such a temper is united (as it commonly is) with pleasing notions, concerning the order of the universe, and in particular concerning the condition and the prospects of man, it places our happiness, in a great measure, beyond the power of fortune. While it adds a double relish to every enjoyment, it blunts the edge of all our sufferings; and even when human life presents to us no object on which our hopes can rest, it invites the imagination beyond the dark and troubled horizon which terminates all our earthly prospects, to wander unconfined in the regions of futurity. A man of benevolence, whose mind is enlarged by philosophy, will indulge the same agreeable anticipations with respect to society; will view all the different improvements in arts, in commerce, and in the sciences, as co-operating to promote the union, the happiness, and the virtue of mankind; and, amidst the political disorders resulting from the prejudices and follies of his own times, will look forward with transport, to the blessings which are reserved for posterity in a more enlightened age.

NOTES

AND

ILLUSTRATIONS.

NOTES, &c.

NOTE [A], page 4.

I AM happy in being able to quote the following passage, in illustration of a doctrine, against which I do not conceive it possible to urge any thing, but the authority of some illustrious names.

" Puisque l'existence des corps n'est pour nous que la " permanence d'êtres dont les propriétés répondent à un " certain ordre de nos sensations, il en résulte qu'elle n'a " rien de plus certain que celle d'autres êtres qui se mani- " festent également par leurs effets sur nous; & puisque nos " observations sur nos propres facultés, confirmées par celles " que nous faisons sur les êtres pensants qui animent aussi " des corps, ne nous montrent aucune analogie entre l'être " qui sent ou qui pense & l'être qui nous offre le phénomène " de l'étendue ou de l'impénétrabilité, il n'y a aucune raison " de croire ces êtres de la même nature. Ainsi la spiritualité " de l'ame n'est pas une opinion qui ait besoin de preuves, " mais le résultat simple & naturel d'une analyse exacte de " nos idées, & de nos facultés."

Vie de M. TURGOT *par M.* CONDORCET.

Des Cartes was the first philosopher who stated, in a clear and satisfactory manner, the distinction between mind and matter, and who pointed out the proper plan for studying the intellectual phenomena. It is chiefly in consequence of

his precise ideas with respect to this distinction, that we may remark, in all his metaphysical writings, a perspicuity which is not observable in those of any of his predecessors.

Dr. *Reid* has remarked, that although *Des Cartes* infers the existence of mind, from the operations of which we are conscious, yet he could not reconcile himself to the notion of an unknown substance, or substratum, to which these operations belonged. And it was on this account, he conjectures, that he made the essence of the soul to consist in thought; as, for a similar reason, he had made the essence of matter to consist in extension. But I am afraid, that this supposition is not perfectly reconcileable with Des Cartes' writings; for he repeatedly speaks with the utmost confidence of the existence of substances of which we have only a relative idea; and, even in attempting to shew that thought is the essential attribute of mind, and extension of matter, he considers them as nothing more than attributes or qualities belonging to these substances.

"Per substantiam nihil aliud intelligere possumus, quam "rem quæ ita existit, ut nulla alia re indigeat ad existen- "dum. Et quidem substantia quæ nulla plane re indigeat, "unica tantum potest intelligi, nempe Deus. Alias vero "omnes, non nisi ope concursus Dei existere posse percipi- "mus. Atque ideo nomen substantiæ non convenit Deo et "illis *univoce* ut dici solet in scholis; hoc est, nulla ejus no- "minis significatio, potest distincte intelligi, quæ Deo, et "creaturis sit communis.

"Possunt autem substantia corporea, et mens, sive sub- "stantia cogitans, creata, sub hoc communi conceptu intel- "ligi; quod sint res, quæ solo Dei concursu egent ad exis- "tendum. Verumtamen non potest substantia primum ani- "madverti ex hoc solo, quod sit res existens, quia hoc solum "per se nos non afficit: sed facile ipsam agnoscimus ex "quolibet ejus attributo, per communem illam notionem, "quod nihili nulla sunt attributa, nullæve proprietates aut "qualitates. Ex hoc enim, quod aliquod attributum adesse

"percipiamus, concludimus aliquam rem existentem, sive "substantiam cui illud tribui possit, necessario etiam adesse.

"Et quidem ex quolibet attributo substantia cognoscitur: "sed una tamen est cujusque substantiæ præcipua proprietas, "quæ ipsius naturam essentiamque constituit, et ad quam "aliæ omnes referuntur. Nempe extensio in longum, la- "tum et profundum substantiæ corporeæ naturam consti- "tuit; et cogitatio constituit naturam substantiæ cogitantis."

Princip. Philosoph. pars i. cap. 51, 52, 53.

In stating the relative notions which we have of mind and of body, I have avoided the use of the word *substance*, as I am unwilling to furnish the slightest occasion for controversy; and have contented myself with defining *mind* to be *that* which feels, thinks, wills, hopes, fears, desires, &c. That my consciousness of these and other operations is necessarily accompanied with a conviction of my own existence, and with a conviction that all of them belong to one and the same being, is not an hypothesis, but a fact; of which it is no more possible for me to doubt, than of the reality of my own sensations or volitions.

NOTE [B], page 68.

Doctor Reid remarks, that Des Cartes rejected a part only of the ancient theory of perception, and adopted the other part. "That theory," says he, "may be divided "into two parts: the first, that images, species, or forms of "external objects, come from the object, and enter by the "avenues of the senses to the mind: the second part is, that "the external object itself is not perceived, but only the "species or image of it in the mind. The first part, Des "Cartes and his followers rejected and refuted by solid ar- "guments; but the second part, neither he nor his followers "have thought of calling in question; being persuaded that "it is only a representative image in the mind of the exter- "nal object that we perceive, and not the object itself. "And this image, which the peripatetics called a species,

" he calls an idea, changing the name only, while he admits " the thing."

The account which this passage contains of Des Cartes' doctrine concerning perception, is, I believe, agreeable to his prevailing opinion, as it may be collected from the general tenor of his writings; and the observation with which it concludes is undoubtedly true, that neither he nor any of his followers ever called in question the existence of ideas, as the immediate objects of our perception. With respect, however, to the first part of the ancient theory, as here stated, it may be proper to remark, that Des Cartes, although evidently by no means satisfied with it, sometimes expresses himself as if he rather doubted of it, than expressly denied it; and at other times, when pressed with objections to his own particular system, he admits, at least in part, the truth of it. The following passage is one of the most explicit I recollect, in opposition to the ancient doctrine.

" Observandum præterea, animam, nullis imaginibus ab " objectis ad cerebrum missis egere ut sentiat, (contra quam " communiter philosophi nostri statuunt,) aut ad minimum " longe aliter illarum imaginum naturam concipiendam esse " quam vulgo fit. Quum enim circa eas nil considerent, " præter similitudinem earum cum objectis quæ repræsent- " ant, non possunt explicare, qua ratione ab objectis formari " queant, et recipi ab organis sensuum exteriorum, et de- " mum nervis ad cerebrum transvehi. Nec alia causa ima- " gines istas fingere eos impulit, nisi quod viderent mentem " nostram efficaciter pictura excitari ad apprehendendum " objectum illud, quod exhibet: ex hoc enim judicarunt, " illam eodem modo excitandam, ad apprehendenda ea quæ " sensus movent, per exiguas quasdam imagines, in capite " nostro delineatas. Sed nobis contra est advertendum, " multa præter imagines esse, quæ cogitationes excitant, ut " exempli gratia, verba et signa, nullo modo similia iis quæ " significant." *Dioptric.* cap. 4. §. 6.

In his third meditation (which contains his celebrated argument for the existence of a Deity) the following passage occurs.

" Sed hic præcipue de iis est quærendum quas tanquam a " rebus extra me existentibus desumptas considero, quænam " me moveat ratio ut illas istis rebus similes esse existimem; " nempe ita videor doctus a natura, et præterea experior illas " non a mea voluntate nec proinde a me ipso pendere, sæpe " enim vel invito obversantur, ut jam, sive velim sive nolim, " sentio calorem, et ideo puto sensum illum, sive ideam " caloris a re a me diversâ, nempe ab ignis, cui assideo " calore mihi advenire, nihilque magis obvium est, quam " ut judicem istam rem suam similitudinem potius, quam " aliud quid in me immittere; quæ rationes an satis firmæ " sint, jam videbo. Cum hic dico me ita doctum esse a " natura, intelligo tantum spontaneo quodam impetu me " ferri ad hoc credendum, non lumine aliquo naturali mihi " ostendi esse verum, quæ duo multum discrepant, nam " quæcumque lumine naturali mihi ostenduntur, (ut quod " ex eo quod dubitem sequatur me esse, et similia,) nullo " modo dubia esse possunt quia nulla alia facultas esse " potest, cui æque fidam ac lumini isti, quæque illa non " vera possit docere; sed quantum ad impetus naturales, jam " sæpe olim judicavi me ab illis in deteriorem partem fuisse " impulsum cum de bono eligendo ageretur, nec video cur " iisdem in ulla alia re magis fidam. Deinde quamvis ideæ " illæ a voluntate mea non pendeant, non ideo constat ipsas " a rebus extra me positis necessario procedere; ut enim " impetus illi, de quibus mox loquebar, quamvis in me sint, " a voluntate tamen mea diversi esse videntur, ita forte etiam " aliqua alia est in me facultas nondum mihi satis cognita " istarum idearum effectrix, ut hactenus semper visum est " illas, dum somnio, absque ulla rerum externarum ope in " me formari; ac denique quamvis a rebus a me diversis " procederent, non inde sequitur illas rebus istis similes esse " debere; quinimo in multis sæpe magnum discrimen videor " deprehendisse; sic, exempli causa, duas diversas solis ideas " apud me invenio, unam tanquam a sensibus haustam, et " quæ maxime inter illas quas adventitias existimo est re- " censenda, per quam mihi valde parvus apparet; aliam

" vero ex rationibus astronomiæ desumptam, hoc est ex no-
" tionibus quibusdam mihi innatis elicitam vel quocumque
" alio modo a me factam, per quam aliquoties major quam
" terra exhibetur; utraque profecto similis eidem soli extra
" me existenti esse non potest, et ratio persuadet illam ei
" maxime esse dissimilem, quæ quam proxime ab ipso vide-
" tur emanâsse. Quæ omnia satis demonstrant me non hac-
" tenus ex certo judicio, sed tantum ex cæco aliquo impulsu
" credidisse res quasdam a me diversis existere, quæ ideas
" sive imagines suas per organa sensuum, vel quolibet alio
" pacto mihi immittant."

Among other animadversions upon this meditation sent to Des Cartes by one of his correspondents, it is objected; — " Videris vertere in dubium non tantum utrum ideæ aliquæ " procedant ex rebus externis, sed etiam utrum omnino sint " externæ res aliquæ." To which Des Cartes answers: " Notandum est, me non affirmâsse ideas rerum materialium " ex mente deduci, ut non satis bona fide hic fingis; ex-" presse enim postea ostendi ipsas a corporibus sæpe ad-" venire, ac per hoc corporum existentiam probari."

Vide Objectiones in Meditationes Renati Des Cartes, cum ejusdem ad illas Responsionibus.

NOTE [C.], page 71.

In consequence of the inferences which Mr. Hume has deduced from this doctrine concerning cause and effect, some later authors have been led to dispute its truth; not perceiving that the fallacy of this part of Mr. Hume's system does not consist in his premises, but in the conclusion which he draws from them.

That the object of the physical inquirer is not to trace necessary connexions, or to ascertain the efficient causes of phenomena, is a principle which has been frequently ascribed to Mr. Hume as its author, both by his followers and by his opponents; but it is, in fact, of a much earlier date, and has been maintained by many of the most enlightened,

and the least sceptical of our modern philosophers: nor do I know that it was ever suspected to have a dangerous tendency, till the publication of Mr. Hume's writings. "If we except," (says Dr. Barrow) "the mutual causality and dependence of "the terms of a mathematical demonstration, I do not think "that there is any other causality in the nature of things, "wherein a necessary consequence can be founded. Logi- "cians do indeed boast of I do not know what kind of de- "monstrations from external causes either efficient or final, "but without being able to shew one genuine example of "any such; nay, I imagine it is impossible for them so to "do. For there can be no such connexion of an external "efficient cause with its effect," (at least none such can be understood by us,) "through which, strictly speaking, the "effect is necessarily supposed by the supposition of the "efficient cause, or any determinate cause by the supposition "of the effect." He adds afterwards, "Therefore there "can be no argumentation from an efficient cause to the "effect, or from an effect to the cause which is lawfully "necessary.". *Mathematical Lectures read at Cambridge.*

Dr. Butler too, in his discourse on the ignorance of man, has remarked, that "it is in general no more than effects, "that the most knowing are acquainted with; for as to "causes they are entirely in the dark as the most igno- "rant." "What are the laws," (he continues,) "by which "matter acts on matter, but certain effects, which some "having observed to be frequently repeated, have reduced "to general rules?" BUTLER's *Sermons.*

"The laws of attraction and repulsion," (says Dr. Berke- ley,) "are to be regarded as laws of motion, and these only "as rules or methods observed in the productions of natural "effects, the efficient and final causes whereof are not of "mechanical consideration. Certainly, if the explaining a "phenomenon be to assign its proper efficient and final "cause, it should seem the mechanical philosophers never "explained any thing; their province being only to discover "the laws of nature; that is, the general rules and method

" of motion; and to account for particular phenomena, by " reducing them under, or shewing their conformity to such " general rules." SIRIS: *or, Philosophical Inquiries concerning the Virtues of Tar Water*, p. 108.

" The words *attraction* and *repulsion* may, in compliance " with custom, be used where, accurately speaking, motion " alone is meant." *Ibid.* p. 114.

" Attraction cannot produce, and in that sense account, " for the phenomena; being itself one of the phenomena " produced and to be accounted for." *Ibid.* p. 115.

" There is a certain analogy, constancy, and uniformity in " the phenomena or appearances of nature, which are a " foundation for general rules: and these are a grammar for " the understanding of nature, or that series of effects in the " visible world, whereby we are enabled to foresee what will " come to pass in the natural course of things. Plotinus " observes, in his third Ennead, that the art of presaging, " is in some sort the reading of natural letters denoting " order, and that so far forth as analogy obtains in the uni- " verse, there may be vaticination. And in reality, he that " foretells the motions of the planets, or the effects of me- " dicines, or the result of chemical or mechanical experi- " ments, may be said to do it by natural vaticination." *Ibid.* p. 120, 121.

" Instruments, occasions, and signs, occur in, or rather " make up, the whole visible course of nature." *Ib.* p. 123.

The following very remarkable passage from Mr. Locke shews clearly, that this eminent philosopher considered the connexion between impulse and motion, as a *conjunction* which we learn from experience only; and not as a consequence deducible from the consideration of impulse, by any reasoning *a priori*. The passage is the more curious, that it is this particular application of Mr. Hume's doctrine, that has been generally supposed to furnish the strongest objection against it.

" Another idea we have of body, is the power of com- " municating motion by impulse; and of our souls, the

" power of exciting motion by thought. These ideas, the " one of body, the other of our minds, every day's experi- " ence clearly furnishes us with: but if here again we in- " quire how this is done, we are equally in the dark. For " in the communication of motion by impulse, wherein as " much motion is lost to one body, as is got to the other, " which is the ordinariest case, we can have no other con- " ception, but of the passing of motion out of the one into " another; which I think is as obscure and inconceivable, " as how our minds move or stop our bodies by thought, " which we every moment find they do."

——— " The communication of motion by thought, " which we ascribe to spirit, is as evident as that of im- " pulse, which we ascribe to body. Constant experience " makes us sensible of both of these, though our narrow " understandings can comprehend neither."

——— " To conclude, sensation convinces us, that there " are solid extended substances; and reflection, that there " are thinking ones: experience assures us of the existence " of such beings; and that the one hath a power to move " body by impulse, and the other by thought. —— If we " would inquire farther into their nature, causes, and man- " ner, we perceive not the nature of extension clearer than " we do of thinking. If we would explain them any " farther, one is as easy as the other; and there is no more " difficulty to conceive, how a substance we know not, " should by thought set body into motion, than how a " substance we know not, should by impulse set body into " motion." LOCKE, book ii. chap. 23. § 28, 29.

It is not indeed very easy to reconcile the foregoing observations, which are, in every respect, worthy of the sagacity of this excellent philosopher, with the passage quoted from him in page 81 of this work.

Some of Mr. Hume's reasonings concerning the nature of the connexions among physical events, coincide perfectly with those of Malebranche on the same subject; but they

were employed by this last writer to support a very different conclusion.

At a still earlier period, Hobbes expressed himself with respect to physical connections, in terms so nearly approaching to Mr. Hume's, that it is difficult to suppose that they did not suggest to him the language which he has employed on that subject. "What we call experience," (he remarks,) "is nothing else but remembrance of what antecedents have "been followed by what consequents." — "No man," (he continues,) "can have in his mind a conception of the fu- "ture; for the future is not yet; but of our conceptions "of the past we make a future, or rather call past, future "relatively. Thus after a man hath been accustomed to "see like antecedents followed by like consequents, when- "soever he seeth the like come to pass to any thing he had "seen before, he looks there should follow it the same that "followed then. — When a man hath so often observed "like antecedents to be followed by like consequents, that "whensoever he seeth the antecedent, he looketh again for "the consequent, or when he seeth the consequent, maketh "account there hath been the like antecedent, then he "calleth both the antecedent and the consequent signs of "one another." HOBBES' *Tripos.*

I am doubtful whether I should not add to these authorities, that of Lord Bacon, who, although he has no where formally stated the doctrine now under consideration, has plainly taken it for granted in all his reasonings on the method of prosecuting philosophical inquiries; for if we could perceive in any instance the manner in which a cause produces its effect, we should be able to deduce the effect from its cause by reasoning *à priori*; the impossibility of which he every where strongly inculcates. "Homo naturæ minister "et interpres tantum facit et intelligit quantum de naturæ "ordine re vel mente observaverit; nec amplius scit aut "potest." I acknowledge, at the same time, that, from the general scope of Lord Bacon's writings, as well from some

particular expressions in them with regard to causes, I am inclined to believe that his metaphysical notions on the subject were not very accurate, and that he was led to perceive the necessity of recurring to observation and experiment in natural philosophy, not from a speculative consideration of our ignorance concerning necessary connections, but from a conviction, founded on a review of the history of science, of the insufficiency of those methods of inquiry which his predecessors had pursued. The notion which the antients had formed of the object of philosophy, (which they conceived to be the investigation of efficient causes,) was the principal circumstance which misled them in their researches: and the erroneous opinions of Des Cartes on the same subject, frustrated all the efforts of his great and inventive genius, in the study of physics. "Perspicuum est," (says he, in one passage,) "optimam philosophandi viam nos sequutu-"ros, si ex ipsius Dei cognitione rerum ab eo creatarum "cognitionem deducere conemur, ut ita scientiam perfec-"tissimam quæ est effectuum per causas acquiramus." *

The strong prejudice which has been entertained of late against Mr. Hume's doctrine concerning the connection among physical events, in consequence of the dangerous conclusions to which it has erroneously been supposed to lead, will, I hope, be a sufficient apology for multiplying so many authorities in support of it.

NOTE [D], page 74.

THIS language has ever been adopted by philosophers, and by atheists as well as theists. The latter have represented natural events as parts of a great chain, the highest link of which is supported by the Deity. The former have pretended, that there is no absurdity in supposing the number of links to be infinite. Mr. Hume had the merit of shewing clearly to philosophers, that our com-

* There is, I believe, reason to doubt if Des Cartes had ever read the works of Bacon.

mon language, with respect to cause and effect, is merely analogical; and that if there be any links among physical events, they must for ever remain invisible to us. If this part of his system be admitted; and if, at the same time, we admit the authority of that principle of the mind, which leads us to refer every change to an efficient cause; Mr. Hume's doctrine seems to be more favourable to theism, than even the common notions upon this subject; as it keeps the Deity always in view, not only as the first, but as the constantly operating efficient cause in nature, and as the great connecting principle among all the various phenomena which we observe. This, accordingly, was the conclusion which Malebranche deduced from premises very nearly the same with Mr. Hume's.

NOTE [E], page 119.

MR. LOCKE in his Essay on Human Understanding, has taken notice of the quickness with which the operations of the mind are carried on, and has referred to the acquired perceptions of sight, as a proof of it. The same Author has been struck with the connexion between this class of facts and our habitual actions; but he does not state the question, whether such actions are voluntary or not. I think it probable, from his mode of expression, that his opinion on the subject was the same with mine. The following quotation contains all the remarks I recollect in his writings, that have any connexion with the doctrines of the present chapter:

"We are farther to consider, concerning perception, that "the ideas we receive by sensation are often, in grown peo- "ple, altered by the judgment, without our taking notice "of it. When we set before our eyes a round globe, of "any uniform colour, *e. g.* gold, alabaster, or jet, it is "certain that the idea thereby imprinted on our mind is of "a flat circle, variously shadowed, with several degrees of "light and brightness coming to our eyes. But we, having

" by use been accustomed to perceive what kind of appear-
" ance convex bodies are wont to make in us, and what al-
" terations are made in the reflections of light by the dif-
" ference of the sensible figure of bodies; the judgment
" presently, by a habitual custom, alters the appearances
" into their causes; so that, from that which truly is va-
" riety of shadow or colour, collecting the figure, it makes
" it pass for a mark of figure, and frames to itself the per-
" ception of a convex figure, and an uniform colour; when
" the idea we receive from thence is only a plane variously
" coloured; as is evident in painting." Chap. ix. § 8.

" But this is not, I think, usually in any of our ideas
" but those received by sight; because sight, the most com-
" prehensive of all our senses, conveying to our minds the
" ideas of light and colours, which are peculiar only to that
" sense, and also the far different ideas of space, figure,
" and motion, the several varieties whereof change the ap-
" pearances of its proper object, viz. light and colours, we
" bring ourselves by use to judge of the one by the other.
" This, in many cases, by a settled habit in things whereof
" we have frequent experience, is performed so constantly,
" and so quick, that we take that for the perception of our
" sensation, which is an idea formed by our judgment; so
" that one, viz. that of sensation, serves only to excite the
" other, and is scarce taken any notice of itself; as a man
" who reads or hears with attention and understanding,
" takes little notice of the characters or sounds, but of the
" ideas that are excited in him by them.

" Nor need we wonder that this is done with so little
" notice, if we consider how very quick the actions of the
" mind are performed; for as itself is thought to take up
" no space, to have no extension, so its actions seem to re-
" quire no time, but many of them seem to be crowded
" into an instant. I speak this in comparison to the ac-
" tions of the body. Any one may easily observe this in
" his own thoughts, who will take the pains to reflect on

" them. How, as it were in an instant, do our minds, " with one glance, see all parts of a demonstration, which " may very well be called a long one, if we consider the " time it will require to put it into words, and step by step " shew it to another? Secondly, we shall not be much sur- " prised that this is done in us with so little notice, if we " consider how the facility which we get of doing things by " a custom of doing, makes them often pass in us without " our notice. Habits, especially such as are begun very " early, come at last to produce actions in us, which often " escape our observation. How frequently do we in a day " cover our eyes with our eye-lids, without perceiving that " we are at all in the dark? Men that by custom have got " the use of a bye-word, do almost in every sentence pro- " nounce sounds, which, though taken notice of by others, " they themselves neither hear nor observe; and, therefore, " it is not so strange that our mind should often change " the idea of its sensation into that of its judgment, and " make one serve only to excite the other, without our " taking notice of it." *Ibid.* § 9, 10.

The habit mentioned by Locke, in this paragraph, of occasionally winking with the eye-lids, (which is not accompanied with any memory of our being, in every such instance, in a momentary state of total darkness,) deserves to be added to the cases already mentioned, to shew the dependence of memory upon attention.

Note [F], page 166.

" ——PLATONI quid idea sit, peculiari tractatione pro- " lixe excussimus *, quæ consuli ab iis debet, qui accurate " totam rei seriem pernoscere cupiunt. Nos pro præ- " sentis instituti modo paucis notamus, Platoni ideam " non esse illam, quæ ex contemplatione objectorum sin- " gularium exsurgit notionem universalem reique alicujus

* Brucker here alludes to his work, intitled, *Historia Philosophica de Ideis*; which I have never had an opportunity of seeing.

" generalem conceptum, quem recentiores ideam vocant, " ille εἰδη vocavit et ab idea distinxit. Sed ideæ sunt illi " essentialia rerum omnium singularium exemplaria, " αὐτουσια gaudentia, ad quorum naturam indolemque res " singulares formatæ sunt, et quæ illis veram certamque " atque stabilem essentiam largiuntur. Has ideas ex divina " mente oriri, inque ea radicari, sua autem propria substan- " tia gaudere, et esse αὐτως, καὶ ὀντως ὀντα statuit, et circa " earum cognitionem versari intellectum humanum, in his " rerum essentiis separatim et extra materiam existentibus " cognoscendis cardinem verti totius philosophiæ asseruit. " Ridiculum id visum Aristoteli, dari extra materiam ejus- " modi essentias universales, quibus res omnes singulares " essentialiter modificarentur, rato, esse hæc τερετισματα et " nugas otiosi ingenii, Platonemque sine causa rationeque " sufficienti hæc somnia ex scholis Pythagoreorum, quæ " istis entibus personabant, recepisse, suoque intulisse sys- " temati. Cum autem negare non auderet, esse in rebus " formas essentiales, has ideas, sive formas, qua voce Pla- " tonicum nomen exprimere maluit, materiæ ab æterno " esse impressas, et in eo latere affirmavit, et ita demum " ex rationibus istis formisque seminalibus, materiam esse " formatam statuit." Bruck. *Hist. Phil.* iii. p. 905.

NOTE [G], page 168.

The Stoics, who borrowed many of their doctrines from the other schools of philosophy, seem, in particular, to have derived their notions on this subject from some of their predecessors. Stilpo, who was of the Megaric sect, is said to have held opinions approaching nearly to those of the Nominalists.

" Stilpo universalia plane sustulit. Dicebat enim: qui " hominem dicat eum neminem dicere, quod non hunc vel " illum ea vox significet, nec huic magis, quam alteri con- " veniat. — Scilicet supponebat Stilpo, non dari hominem " in abstracto, adeoque has species et genera rerum non na-

" turâ existere; cum neque in hoc neque in alio homine, " ille homo universalis queat ostendi. Inductione itaque " facta, cum neque hunc, neque illum, neque alium homi- " nem esse colligeret, inferebat nullum esse hominem, " sicque ludendo ambigua hominis in genere sive abstracto, " uti logici dicunt, et in individuo sive singulari considerati " notione, incautos exagitabat. Altiora tamen hic latere " putat P. Bayle, et non in solo verborum lusu substitisse " Stilponem, sed universalia sive prædicabilia negavisse.— " Neque prorsus est dissimile, fuisse Stilponem inter eos, " qui universalia præter nuda nomina nihil esse dicerent, " quod et cynicos fecisse et alios, alibi docuimus: quorum " partes postea susceperunt Abelardi sequaces et tota no- " minalium secta." BRUCKER, vol. i. p. 619.

NOTE [H], page 170.

" SECULO XI. Roscelinus vel Ruccelinus sacerdos et " philosophus Compendiensis, ab Aristotele secessum " fecit, et in Stoicorum castra ita transiit, ut statuerit, uni- " versalia, nec ante rem, nec in re existere, nec ullam ha- " bere realem existentiam, sed esse nuda nomina et voces, " quibus rerum singularium genera denotentur."

BRUCKER, *Hist. Phil.* vol. iii. p. 906.

" Dum Porphyrius prudenter quæstionem; an universalia " revera existant, omittendam esse censet, de quâ inter Pla- " tonicos et Stoicos mire decertari noverat, occasionem sup- " peditavit otioso Roscelini ingenio, eam novo acumine in- " genii aggrediendi definiendique." *Ibid.* vol. iii. p. 674.

Roscelinus was a native of Brittany, and canon of Compiegne. He is much celebrated, even by his adversaries, for the acuteness and subtlety of his genius, which he displayed both in scholastical and theological controversy. He was condemned for Tritheism by a council assembled at Soissons in the year 1092. (*See* MOSHEIM's *Ecclesiastical History.*) It does not appear that he ever taught in Paris, or that he gave public lectures; but he had the honour to direct the

studies, and to form the philosophical opinions of Abelard, by whose means the innovations he had introduced into Dialectics obtained a very wide and rapid circulation.—(BRUCKER, vol. iii. p. 728.) He is mentioned as an Englishman by Mallet, in his life of Bacon, and by other writers; a mistake into which they have fallen, by confounding Britain with Bretagne. Very little is known of the particulars of his life. "Primum nominalium aiunt fuisse," says Leibnitz; "*nescio quem* Rucelinum Britonem." *See his Dissertation de Stylo Philosophico Marii Nizolii.*

The opinion of Abelard concerning Universals, is said to have differed, in some respects, from that of his master. "Alius consistit in vocibus," says John of Salisbury, who was a scholar of Abelard, "licet hæc opinio cum Roscelino "suo fere omnino jam evanuerit: alius sermones intuetur, "et ad illos detorquet, quicquid alicubi de universalibus "meminit scriptum. In hac autem opinione deprehensus "est Peripateticus Abelardus noster."

Metalog. lib. ii. c. 17.

Of this difference between the doctrines of Roscelinus and Abelard, I find myself perfectly unable to give any account; and I am glad to find that Morhoff acknowledges his ignorance upon the same subject. "Alii fuerunt, qui "universalia quæsiverunt, non tam in vocibus quam in "sermonibus integris; quod Joh. Sarisberiensis adscribit "Petro Abelardo; quo quid intelligat ille, mihi non satis "liquet." *Polyhist.* tom. ii. lib. i. cap. 13. § 2.

Absurd as these controversies may now appear, such was the prevailing taste of the twelfth century, that they seduced the young and aspiring mind of Abelard from all the other pursuits which Europe then presented to his ambition.—"Ut militaris gloriæ pompam," says he, "cum hæreditate "et prærogativa primogenitorum meorum fratribus derelin-"quens, Martis curiæ penitus abdicarem, ut Minervæ "gremio educarer." *Hist. Calam. Suar.* c. 1.

Among the literary men of this period, none seems to have arisen to such an eminent superiority above his age,

in the liberality of his philosophical views, as John of Salisbury, the celebrated friend of archbishop Becket. In his youth he had studied at Paris under Abelard and other eminent masters, and had applied himself, with distinguished ardour and success, to the subtile speculations which then occupied the schools. After a long absence, when his mind was enlarged by more liberal and useful pursuits, and by an extensive intercourse with the world, he had the curiosity to revisit the scene of his early studies, and to compare his own acquisitions with those of his old companions. The account which he gives of this visit is strikingly characteristical, both of the writer and of his age: "Inventi sunt, "qui fuerant, et ubi: neque enim ad palmam visi sunt "processisse ad quæstiones pristinas dirimendas, neque pro- "positiunculam unam adjecerant. ———— Expertus "itaque sum quod liquido colligi potest, quia sicut dialec- "tica alias expedit disciplinas, sic, si sola fuerit, jacet ex- "sanguis et sterilis, &c." *Metalog.* lib. ii. cap. 10.

The same Author, speaking of the controversy between the Nominalists and the Realists, thus expresses himself: "Quæstionem de generibus et speciebus in qua laborans "mundus jam senuit, in qua plus temporis consumptum "est quam in acquirendo et regendo orbis imperio consum- "serit Cæsarea domus: plus effusum pecuniæ, quam in "omnibus divitiis suis possederit Crœsus. Hæc enim tam- "diu multos tenuit, ut cum hoc unum tota vita quærerent, "tandem nec istud, nec aliud invenirent."

De Nugis Curialium, lib. vii. cap. 12.

NOTE [I], page 187.

"——Secta nominalium, omnium inter scholasticas "profundissima, et hodiernæ reformatæ philosophandi "rationi congruentissima; quæ quum olim maximè flo- "reret, nunc apud scholasticos quidem, extincta est. "Unde conjicias decrementa potiùs quàm augmenta acu-

" minis. Quum autem ipse Nizolius noster se Nominalem " exsertè profiteri non dubitet prope finem capitis sexti, libri " primi; et verò in realitate formalitatum et universalium " evertenda nervus disputationis ejus omnis potissimum " contineatur, pauca quædam de Nominalibus subjicere " operæ pretium duxi. Nominales sunt, qui omnia putant " esse nuda nomina præter substantias singulares, abstrac- " torum igitur et universalium realitatem prorsus tollunt. " Primum autem nominalium aiunt fuisse nescio quem Ru- " celinum Britonem, cujus occasione cruenta certamina in " academia Parisiensi fuerunt excitata.

" Diu autem jacuit in tenebris secta nominalium, donec " maximi vir ingenii, et eruditionis pro illo ævo summæ, " Wilhelmus Occam Anglus, Scoti discipulus, sed mox " oppugnator maximus, de improviso eam resuscitavit; con- " sensere Gregorius Ariminensis, Gabr. Biel, et plerique " ordinis Augustinianorum, unde et in Martini Lutheri " scriptis prioribus amor nominalium satis elucet, donec " procedente tempore erga omnes monachos æqualiter " affectus esse cœpit. Generalis autem regula est, qua " nominales passim utuntur; entia non esse multiplicanda " præter necessitatem. Hæc regula ab aliis passim oppug- " natur, quasi injuria in divinam ubertatem, liberalem " potius quam parcam, et varietate ac copia rerum gauden- " tem. Sed, qui sic objiciunt, non satis mihi nominalium " mentem cepisse videntur, quæ, etsi obscurius proposita, " huc redit: hypothesin eo esse meliorem, quo simpliciorem, " et in causis eorum quæ apparent reddendis eum optime " se gerere, qui quam paucissima gratis supponat. Nam " qui aliter egit, eo ipso naturam, aut potius autorem ejus " Deum ineptæ superfluitatis accusat. Si quis astronomus " rationem phenomenorum cœlestium reddere potest paucis " suppositis, meris nimirum motibus simplicibus circulari- " bus, ejus certè hypothesis ejus hypothesi præferenda erit, " qui multis orbibus varie implexis ad explicanda cœlestia " indiget. Ex hac jam regula nominales deduxerunt, omnia

" in rerum natura explicari posse, etsi universalibus et for-
" malitatibus realibus prorsus careatur; qua sententia nihil
" verius, nihil nostri temporis philosopho dignius, usque
" adeo, ut credam ipsum Occamum non fuisse nomina-
" liorem, quam nunc est Thomas Hobbes, qui, ut verum
" fatear, mihi, plusquam nominalis videtur. Non con-
" tentus enim cum nominalibus universalia ad nomina re-
" ducere, ipsam rerum veritatem ait in nominibus consistere,
" ac, quod majus est, pendere ab arbitrio humano, quia
" veritas pendeat a definitionibus terminorum, definitiones
" autem terminorum ab arbitrio humano. Hæc est sen-
" tentia viri inter profundissimos seculi censendi, qua, ut
" dixi, nihil potest esse nominalius."

This passage from Leibnitz has given rise to a criticism of Morhoff, which appears to me to be extremely ill-founded.—
" Accenset nominalibus" (says he,) " Leibnitzius Thomam
" Hobbensium, quem ille ipso Occamo nominaliorem, et
" plusquam nominalem vocat, qui non contentus cum no-
" minalibus universalia ad nomina reducere, ipsam rerum
" veritatem ait in nominibus consistere, ac quod majus est,
" pendere ab arbitrio humano. Quæ bella ejus sententia,
" quamquam laudat eam Leibnitzius, monstri aliquid alit,
" ac plane nequam est. Immania enim ex uno summo
" paradoxo fluunt absurda."

MORHOF. *Polyhistor.* vol. ii. page 81.

I shall not at present enter into a particular examination of the doctrine here ascribed to Hobbes, which I shall have occasion to consider afterwards under the article of Reasoning. I cannot, however, help remarking, that nothing but extreme inattention to the writings of Leibnitz could have led Morhoff to suppose that he had given his sanction to such an opinion. In the very passage which has now been quoted, the expression (" qui ut verum fatear, mihi plus
" quam nominalis videtur") plainly implies a censure of Hobbes's philosophy; and in another dissertation, entitled, *Meditationes de Cognitione, Veritate, et Ideis,* he is at pains

directly to refute this part of his system: — "Atque ita "habemus quoque discrimen inter definitiones nominales "quæ notas tantum rei ab aliis discernendæ continent, et "reales, ex quibus constat rem esse possibilem, et hac ra- "tione satisfit Hobbio qui veritates volebat esse arbitrarias, "quia ex definitionibus nominalibus penderent, non con- "siderans realitatem definitionis in arbitrio non esse, nec "quaslibet notiones inter se posse conjungi. Nec defini- "tiones nominales sufficiunt ad perfectam scientiam, nisi "quando aliunde constat rem definitam esse possibilem, "&c. &c."

LEIBNITZII *Opera, Edit. Dutens*, tom. ii. p. 16, 17.

NOTE [K], page 193.

"To form a clear notion of truth, it is very necessary "to consider truth of thought, and truth of words, "distinctly one from another: but yet it is very difficult to "treat of them asunder: because it is unavoidable, in "treating of mental propositions, to make use of words: "and then the instances given of mental propositions cease "immediately to be barely mental, and become verbal. "For a mental proposition being nothing but a bare con- "sideration of the ideas, as they are in our minds stripped "of names, they lose the nature of purely mental propo- "sitions, as soon as they are put into words.

"And that which makes it yet harder to treat of mental "and verbal propositions separately, is that most men, if "not all, in their thinking and reasonings within them- "selves, make use of words, instead of ideas, at least when "the subject of their meditation contains in it complex "ideas." LOCKE, book iv. c. 5. § 3, 4.

"——— But to return to the consideration of truth. "We must, I say, observe two sorts of propositions, that "we are capable of making.

" First, mental, wherein the ideas in our understandings " are without the use of words put together or separated " by the mind, perceiving or judging of their agreement " or disagreement.

" Secondly, verbal propositions, which are words, the " signs of our ideas put together or separated in affirmative " or negative sentences, &c." *Ibid.* § 5.

" Though the examining and judging of ideas by themselves, their names being quite laid aside, be the best and " surest way to clear and distinct knowledge; yet through " the prevailing custom of using sounds for ideas, I think " it is very seldom practised. Every one may observe, " how common it is for names to be made use of, instead " of the ideas themselves, even when men think and reason " within their own breasts: especially if the ideas be very " complex, and made up of a great collection of simple " ones. This makes the consideration of words and propositions so necessary a part of the treatise of knowledge, that it is very hard to speak intelligibly of the " one, without explaining the other.

" All the knowledge we have, being only of particular or " of general truths, it is evident that whatever may be done " in the former of these, the latter can never be well made " known, and is very seldom apprehended, but as conceived and expressed in words." Book iv. c. 6. § 1, 2.

From these passages it appears, that Locke conceived the use which we make of words in carrying on our reasonings both with respect to particular and to general truths, to be chiefly the effect of custom; and that the employment of language, however convenient, is not essential to our intellectual operations. His opinion therefore did not coincide with that which I have ascribed to the Nominalists.

On the other hand, the following passage shews clearly, how widely his opinion differed from that of the Realists; and indeed it would have led us to believe that it was the

same with Berkeley's, had not the foregoing quotations contained an explicit declaration of the contrary.

"To return to general words, it is plain, by what has "been said, that general and universal belong not to the "real existence of things, but are the inventions and crea- "tures of the understanding, made by it for its own use, "and concern only signs, whether words or ideas. Words "are general, as has been said, when used for signs of "general ideas, and so are applicable indifferently to many "particular things; and ideas are general, when they are "set up as the representatives of many particular things: "but universality belongs not to things themselves, which "are all of them particular in their existence: even those "words and ideas which in their signification are general. "When, therefore, we quit particulars, the generals that "rest are only creatures of our own making; their general "nature being nothing but the capacity they are put into "by the understanding, of signifying or representing "many particulars. For the signification they have is "nothing but a relation that by the mind of man is added "to them." Book iii. c. 3. § 11.

On the whole, it is evident, that Mr. Locke was neither completely satisfied with the doctrine of the Nominalists, nor with that of the Realists; and therefore I think it is with good reason that Dr. Reid has classed him with the Conceptualists. Indeed, Mr. Locke has put this matter beyond all doubt himself; for, in explaining the manner in which we conceive universals, he has stated his opinion in the strongest and most paradoxical and most contradictory terms. The ridicule bestowed on this part of his philosophy by the author of Martinus Scriblerus, although censured for unfairness by Dr. Warburton, is almost justified by some of his expressions.

NOTE [L], page 202.

In a letter from Leibnitz to a Scotch gentleman (Mr. Burnet of Kemney), dated in the year 1697, there is the following passage:

" J'ay consideré avec attention le grand ouvrage du cha-
" ractere réel, et langage philosophique de Monsieur Wil-
" kins. Je trouve qu'il y a mis une infinité de belles choses,
" et nous n'avons jamais eu une table des predicamens plus
" accomplie. Mais l'application pour les characteres, et
" pour la langue, n'est point conforme à ce qu'on pouvoit
" et devoit faire. J'avois consideré cette matiere avant le
" livre de Monsieur Wilkins, quand j'etois un jeune homme
" de dix neuf ans, dans mon petit livre *de arte combinatoria*,
" et mon opinion est que ces characteres veritablement
" réels et philosophiques doivent repondre a l'analyse des
" pensées. Il est vray que ces characteres presupposent la
" veritable philosophie, et ce n'est que presentement que
" j'oserois entrependre de les fabriquer. Les objections de
" M. Dalgarus, et de M. Wilkins, contre la methode ve-
" ritablement philosophique ne sont que pour excuser l'im-
" perfection de leurs essais, et marquent seulement les
" difficultés qui les en ont rebutés."

The letter, of which this is a part, was published at the end of *A Defence of Dr.* Clarke, (which I believe is commonly ascribed to Dr. Gregory Sharpe,) and which was printed at London in 1744. The person mentioned by Leibnitz under the name of *M. Dalgarus*, was evidently *George Dalgarno*, a native of Aberdeen, and author of a small and very rare book entitled, " *Ars Signorum, vulgò*
" *character universalis et lingua philosophica, qua poterunt,*
" *homines diversissimorum idiomatum, spatio duarum septi-*
" *manarum, omnia animi sui sensa, (in rebus familiaribus,)*
" *non minus intelligibiliter, sive scribendo, sive loquendo,*
" *mutuo communicare, quam linguis propriis vernaculis.*
" *Præterea, hinc etiam poterunt juvenes, philosophiæ prin-*
" *cipia, et veram logicæ praxin, citius et facilius multo im-*
" *bibere, quam ex vulgaribus philosophorum scriptis.*"

It is very remarkable that this work of Dalgarno is never (at least as far as I recollect) mentioned by Wilkins; although it appears from a letter of Charles I. prefixed to Dalgarno's book, that Wilkins was one of the persons who had recommended him to the royal favour.

The treatise *de Arte Combinatoria* is published in the second volume of Dutens' edition of Leibnitz's works, but it does not appear to me to throw much light on his views with respect to a philosophical language.

I must request the indulgence of the reader for adding to the length of this note, by quoting a passage from another performance of Leibnitz; in which he has fallen into a train of thought remarkably similar to that of Mr. Hume and Dr. Campbell, in the passages already quoted from them in this section. The performance is entitled, *Meditationes de Cognitione, Veritate, et Ideis*, and is printed in the second volume of Dutens' edition.

"Plerumque autem, præsertim in analysi longiore, non "totam simul naturam rei intuemur, sed rerum loco signis "utimur, quorum explicationem in præsenti aliqua cogi- "tatione compendii causa solemus prætermittere, scientes, "aut credentes nos eam habere in potestate: ita cum chi- "liogonum, seu polygonum mille æqualium laterum cogito, "non semper naturam lateris, et æqualitatis, et millenarii "(seu cubi a denario) considero, sed vocabulis istis (quo- "rum sensus obscure saltem, atque imperfecte menti obver- "satur) in animo utor loco idearum, quas de iis habeo, "quoniam memini me significationem istorum vocabu- "lorum habere, explicationem autem nunc judico neces- "sariam non esse; qualem cogitationem cæcam, vel etiam "symbolicam appellare soleo, qua et in algebra, et in "arithmetica utimur, imo fere ubique. Et certe cum "notio valde composita est, non possumus omnes ingredi- "entes eam notiones simul cogitare: ubi tamen hoc licet, "vel saltem in quantum licet, cognitionem voco intui- "tivam. Notionis distinctæ primitivæ non alia datur

" cognitio, quam intuitiva, ut compositarum plerumque " cogitatio non nisi symbolica est.

" Ex his jam patet, nos eorum quoque, quæ distincte " cognoscimus, ideas non percipere, nisi quatenus cogi- " tatione intuitiva utimur. Et sane contingit, ut nos " sæpe falso credamus habere in animo ideas rerum, cum " falso supponimus aliquos terminos, quibus utimur, jam " a nobis fuisse explicatos: nec verum aut certe ambigui- " tati obnoxium est, quod aiunt aliqui, non posse nos de " re aliqua dicere, intelligendo quod dicimus, quin ejus " habeamus ideam. Sæpe enim vocabula ista singula " utcunque intelligimus, aut nos antea intellexisse memi- " nimus, qui tamen hac cogitatione cæca contenti sumus, " et resolutionem notionum non satis prosequimur, fit ut " lateat nos contradictio, quam forte notio composita " involvit."

NOTE [M], page 223.

As the passage quoted in the text is taken from a work which is but little known in this country, I shall subjoin the original.

" Qu'il me soit permis de présenter à ceux qui refusent " de croire à ces perfectionnemens successifs de l'espèce " humaine un exemple pris dans les sciences où la marche " de la vérité est la plus sûre, où elle peut être mesurée " avec plus de précision. Ces vérités élémentaires de " géométrie et d'astronomie qui avoient été dans l'Inde " et dans l'Égypte une doctrine occulte, sur laquelle des " prêtres ambitieux avoient fondé leur empire, étoient " dans la Grèce, au temps d'Archimède ou d'Hipparque, " des connoissances vulgares enseignées dans les écoles " communes. Dans le siècle dernier, il suffisoit de quelques " années d'étude pour savoir tout ce qu'Archimède et Hip- " parque avoient pu connoître; et aujourd'hui deux années " de l'enseignement d'un professeur vont au-delà de ce que " savoient Leibnitz ou Newton. Qu'on médite cet exemple,

" qu'on saisisse cette chaîne qui s'étend d'un prêtre de
" Memphis à Euler, et remplit la distance immense qui les
" sépare; qu'on observe à chaque époque le génie devan-
" çant le siècle présent, et la médiocrité atteignant à ce
" qu'il avoit découvert dans celui qui précédoit, on ap-
" prendra que la nature nous a donné les moyens d'épar-
" gner le temps et de ménager l'attention, et qu'il n'existe
" aucune raison de croire que ces moyens puissent avoir un
" terme. On verra qu'au moment où une multitude de
" solutions particulières, de faits isolés commencent à
" épuiser l'attention, à fatiguer la mémoire, ces théories
" dispersées viennent se perdre dans une méthode géné-
" rale, tous les faits se réunir dans un fait unique, et que
" ces généralisations, ces réunions répétées n'ont, comme
" les multiplications successives d'un nombre par lui-
" même, d'autre limite qu'un infini auquel il est impossible
" d'atteindre."

Sur l'Instruction publique, par M. CONDORCET.

Continuation of Note [M]. *(Second Edition.)*

How much is it to be regretted, that a doctrine so pleasing, and, at the same time, so philosophical, should have been disgraced by what has been since written by Condorcet and others, concerning the Perfectibility of Man, and its probable effect in banishing from the earth, Vice, Disease, and Mortality! Surely they who can reconcile their minds to such a Creed, might be expected to treat with some indulgence the credulity of the multitude. Nor is it candid to complain of the slow progress of Truth, when it is blended with similar extravagances in Philosophical Systems.

While, however, we reject these absurdities, so completely contradicted by the whole analogy of human affairs, we ought to guard with no less caution against another Creed, much more prevalent in the present times;—a Creed which taking for granted that all things are governed

by chance or by a blind destiny, overlooks the beneficent arrangement made by Providence for the advancement and for the diffusion of useful knowledge; and, in defiance both of the moral suggestions and of the universal experience of mankind, treats with ridicule the supposed tendency of truth and justice to prevail finally over falsehood and iniquity. If the doctrine which encourages these favourable prospects of the future fortunes of our race, leads, when carried to an extreme, to paradox and inconsistency; the system which represents this doctrine, even when stated with due limitations, as altogether groundless and visionary, leads, by a short and inevitable process, to the conclusions either of the Atheist or of the Manichæan. In the midst, indeed, of such scenes of violence and anarchy as Europe has lately witnessed, it is not always easy for the wisest and best of men to remain faithful to their principles and their hopes: But what must be the opinions and the views of those, who, during these storms and convulsions of the Moral World, find at once, in the apparent retrogradation of Human Reason, the gratification of their Political Ambition, and the secret triumph of their Sceptical theories! —

> Fond, impious Man! Think'st thou yon Sanguine Cloud,
> Rais'd by thy breath, has quench'd the Orb of Day?
> To-morrow, he repairs the golden flood,
> And warms the Nations with redoubled ray.

NOTE [N], page 251.

It may be proper to remark, that under the title of *Economists*, I comprehend not merely the disciples of *Quesnay*, but all those writers in France, who, about the same time with him, began to speculate about the natural order of political societies; or, in other words, about that order which a political society would of itself gradually assume, on the supposition that law had no other object than to protect completely the natural rights of individuals, and left every man at liberty to pursue his own interest in his own way, as long as he abstained from violating the

rights of others. The connection between this natural order and the improvement of mankind, has been more insisted on by the biographers of Turgot than by any other authors; and the imperfect hints which they have given of the views of that truly great man upon this important subject, leave us much room to regret that he had not leisure to execute a work, which he appears to have long meditated, on the principles of moral and political philosophy.

Vie de M. TURGOT. *Partie* ii. *p.* 53.

It is merely for want of a more convenient expression that I have distinguished these different writers by the title of *Economists*. It is in this extensive sense that the word is commonly understood in this country; but I am sensible that it is somewhat ambiguous, and that, without the explanation which I have given, some of my observations might have been supposed to imply a higher admiration than I really entertain of the writings of M. Quesnay, and of the affected phraseology employed by his sect.

The connection between M. Turgot and M. Quesnay, and the coincidence of their opinions about the most essential principles of legislation, will I hope justify me in ranking the former with the Economists; although his views seem to have been much more enlarged than those of his contemporaries; and although he expressly disclaimed an implicit acquiescence in the opinions of any particular sect.

" M. Turgot étudia la doctrine de M. Gournay et de " M. Quesnay, en profita, se la rendit propre; et la com- " binant avec la connoissance qu'il avoit du droit, et avec " les grandes vues de législation civile et criminelle qui " avoient occupé sa tête et intéressé son cœur, parvint à " en former sur le gouvernement des nations un corps de " principes à lui, embrassant les deux autres, et plus com- " plet encore."

Mémoires sur la Vie et les Ouvrages de M. TURGOT, *par M.* DUPONT, *p.* 40, 41.

" Il a passé pour avoir été attaché à plusieurs sectes, " ou à plusieurs sociétés qu'on appelait ainsi; et les amis " qu'il avait dans ces sociétés diverses lui reprochaient sans " cesse de n'être pas de leur avis; et sans cesse il leur re- " prochait de son côté de vouloir faire communauté d'opi- " nions, et de se rendre solidaires les uns pour les autres. " Il croyait cette marche propre à retarder les progrès " mêmes de leurs découvertes." *Ibid.* p. 41, 42.

NOTE [O], page 347.

THE foregoing observations on the state of the mind in sleep, and on the phenomena of dreaming, were written as long ago as the year 1772; and were read (nearly in the form in which they are now published) in the year 1773, in a private literary society in this university. A considerable number of years afterwards, at the time when I was occupied with very different pursuits, I happened, in turning over an old volume of the Scots Magazine, (the volume for the year 1749,) to meet with a short essay on the same subject, which surprized me by its coincidence with some ideas which had formerly occurred to me. I have reason to believe that this essay is very little known, as I have never seen it referred to by any of the numerous writers who have since treated of the human mind; nor have even heard it once mentioned in conversation. I had some time ago the satisfaction to learn accidentally, that the author was Mr. Thomas Melville, a gentleman who died at the early age of 27; and whose ingenious observations on light and colours (published in the Essays of the Edinburgh Philosophical Society) are well known over Europe.

The passages which coincide the most remarkably with the doctrine I have stated, are the following. I quote the first with particular pleasure, on account of the support which it gives to an opinion which I formerly proposed in the essay on Conception, and on which I have the misfortune to differ from some of my friends.

" When I am walking up the High-street of Edinburgh, " the objects which strike my eyes and ears give me an idea " of their presence; and this idea is lively, full, and per- " manent, as arising from the continued operation of light " and sound on the organs of sense.

" Again, when I am absent from Edinburgh, but *con-* " *ceiving* or *imagining* myself to walk up the High-street, " in relating, perhaps, what befel me on such an occasion, " I have likewise in my mind an idea of what is usually " seen and heard in the High-street; and this idea of ima- " gination is entirely similar to those of sensation, though " not so strong and durable.

" In this last instance, while the imagination lasts, be it " ever so short, it is evident that I *think* myself in the " street of Edinburgh, as truly as when I *dream* I am " there, or even as when I *see* and *feel* I am there. It " is true, we cannot so well apply the word *belief* in this " case; because the *perception* is not clear or steady, being " ever disturbed, and soon dissipated, by the superior " strength of intruding *sensation*: yet nothing can be more " absurd than to say, that a man may, in the same indi- " vidual instant, *believe* he is in one place, and *imagine* he " is in another. No man can demonstrate that the objects " of sense exist without him; we are conscious of nothing " but our own sensations: however, by the uniformity, regu- " larity, consistency, and steadiness of the impression, we " are led to believe, that they have a real, and durable " cause without us; and we observe not any thing which " contradicts this opinion. But the ideas of imagination, " being transient and fleeting, can beget no such opinion " or habitual belief; though there is as much perceived in " this case as in the former, namely, an idea of the object " within the mind. It will be easily understood, that all " this is intended to obviate an objection that might be " brought against the similarity of dreaming and imagina- " tion, from our believing in sleep that all is real. But

" there is one fact, that plainly sets them both on a paral-
" lel, that in sleep we often recollect that the scenes which
" we behold are a mere dream, in the same manner as a
" person awake is habitually convinced that the represen-
" tations of his imagination are fictitious."

—— " In this essay we make no inquiry into the state
" of the body in sleep.

—— " If the operations of the mind in sleep can be
" fairly deduced from the same causes as its operations
" when awake, we are certainly advanced one considerable
" step, though the causes of these latter should be still un-
" known. The doctrine of gravitation, which is the most
" wonderful and extensive discovery in the whole compass
" of human science, leaves the descent of heavy bodies as
" great a mystery as ever. In philosophy, as in geometry,
" the whole art of investigation lies in reducing things that
" are difficult, intricate, and remote, to what is simpler
" and easier of access, by pursuing and extending the
" analogies of nature."

On looking over the same essay, I find an observation which I stated as my own in page 150. of this work. " The
" mere imagination of a tender scene in a romance, or
" drama, will draw tears from the eyes of those who know
" very well, when they recollect themselves, that the whole
" is fictitious. In the mean time they must conceive it as
" real; and from this supposed reality arises all its influ-
" ence on the human mind."

Continuation of Note [O]. (*Second Edition.*)

Soon after the publication of the First Edition of this Work, a difficulty was started to me with respect to my conclusions concerning the state of the mind in sleep, by my excellent friend Mr. Prévost of Geneva; a gentleman who has long held a high rank in the republic of letters, and to whose valuable correspondence I have often been indebted for much pleasure and instruction. The same

difficulty was proposed to me, nearly about the same time, by another friend (then at a very early period of life), who has since honourably distinguished himself by his observations on Dr. Darwin's Zoonomia: the first fruits of a philosophical genius, which, I trust, is destined for yet more important undertakings.*

As Mr. Prévost has, in the present instance, kindly aided me in the task of removing his own objection, I shall take the liberty to borrow his words:

" Sans l'action de la Volonté point d'effort d'attention. " Sans quelque effort d'attention point de Souvenir. Dans " le Sommeil, l'action de la Volonté est suspendue. Com- " ment donc reste-t-il quelque Souvenir des Songes?

" Je vois bien deux ou trois réponses à cette difficulté. " Quant à présent, elles se réduisent à dire, ou que dans " un Sommeil parfait, il n'y a nul Souvenir, et que là où " il y a Souvenir, le Sommeil n'étoit pas parfait; ou que " l'action de la Volonté qui suffit pour le Souvenir n'est " pas suspendue dans le Sommeil; que ce degré d'activité " reste à l'ame; que ce n'est, pour ainsi dire, qu'une Vo- " lonté élémentaire et comme insensible."

I am abundantly sensible of the force of this objection; and am far from being satisfied that it is in my power to reconcile completely the apparent inconsistency. The general conclusions, at the same time, to which I have been led, seem to result so necessarily from the facts I have stated, that even although the difficulty in question should remain for the present unsolved, it would not, in my opinion, materially affect the evidence on which they rest. In all our inquiries, it is of consequence to remember, that when we have once arrived at a general principle by a careful induction, we are not entitled to reject it, because we may find ourselves unable to explain from it, synthetically, all the phenomena in which it is concerned. The Newtonian

* Observations on the Zoonomia of Dr. Darwin, By Thomas Brown, Esq. Edinburgh, 1798.

Theory of the Tides is not the less certain, that some apparent exceptions occur to it, of which it is not easy (in consequence of our imperfect knowledge of the local circumstances by which, in particular cases, the effect is modified) to give a satisfactory explanation.

Of the solutions suggested by Mr. Prévost, the first coincides most nearly with my own opinion; and it approaches to what I have hinted (in page 147. of this work) concerning the seeming exceptions to my doctrine, which may occur in those cases where sleep is partial. A strong confirmation of it, undoubtedly, may be derived from the experience of those persons (several of whom I have happened to meet with) who never recollect to have dreamed, excepting when the soundness of their sleep was disturbed by some derangement in their general health, or by some accident which excited a bodily sensation.

Another solution of the difficulty might perhaps be derived from the facts (stated in pp. 104, 105. of this volume) which prove, "that a perception or an idea, which passes "through the mind, without leaving any trace in the me-"mory, may yet serve to introduce other ideas connected "with it by the Laws of Association."

From this principle it follows, that if any one of the more remarkable circumstances in a dream should recur to us after we awake, it might (without our exerting during sleep that attention which is essential to memory) revive the same concatenation of particulars with which it was formerly accompanied. And what is a dream, but such a concatenation of *seeming events* presenting itself to the imagination during our waking hours; the origin of which we learn by experience to refer to that interval which is employed in sleep; — finding it impossible to connect it with any specific time or place in our past history? One thing is certain, that we cannot, by any direct acts of recollection, recover the train of our sleeping thoughts, as we can, in an evening, review the meditations of the preceding day.

Another cause, it must be owned, presents an obstacle to such efforts of recollection; and is, perhaps, adequate of itself to explain the fact. During the day, we have many aids to memory which are wanting in sleep (those, in particular, which are furnished by the objects of our external senses); and of these aids we never fail to avail ourselves, in attempting to recollect the thoughts in which the day has been spent. We consider in what PLACE we were at a particular time, and what persons and things we there saw; endeavouring thus to lay hold of our intellectual processes, by means of the sensible objects with which they were associated: and yet, with all these advantages, the account which most men are able to give of their meditations at the close of a long summer's day, will not be found to require many sentences. As in sleep, our communication with the external world is completely interrupted, it is not surprising, that the memory of our dreams should be much more imperfect than that of our waking thoughts; even supposing us to bestow, at the moment, an equal degree of attention on both.

It is of more importance to remark, in the present argument, that those persons who are subject to *Somnambulism*, seldom, if ever, retain any recollection of the objects of their perceptions while under the influence of this disorder. If the principles I have endeavoured to establish be just, this is a necessary consequence of their inattention to what then passes around them; an inattention of which nobody can doubt, who has had an opportunity of witnessing the vacant and unconscious stare which their eyes exhibit. The same fact illustrates strongly the suspension, during sleep, of those voluntary powers, to which the operations both of mind and body are at other times subjected.

These considerations derive additional evidence from a common remark, that idle people are most apt to dream, or, at least, to recollect their dreams. The thoughts of the busy and of the studious are directed by their habitual oc-

cupations into a particular channel; and the spontaneous course of their ideas is checked and turned aside by the unremitted activity of their minds. In the heedless and dissipated, the thoughts wander carelessly from object to object, according to the obvious relations of resemblance and of analogy, or of vicinity in place and time. As these are the prevailing principles of association in sleep, the chances that the dreams of such men shall be again presented to them in the course of the following day, are infinitely multiplied.

Which of these solutions approaches most nearly to the real state of the fact, I do not presume to decide. I think it probable, that both of them are entitled to notice, in comparing the phenomena of dreaming with the general principles to which I have endeavoured to refer them. In cases where our dreams are occasioned by bodily sensations, or by bodily indisposition, it may be expected that the disturbed state of our rest will prevent that total cessation of the power of attention, which takes place when sleep is profound and complete; and, in such instances, the attention which is given to our passing thoughts may enable us afterwards to retrace them by an act of recollection. On the other hand, the more general fact unquestionably is, that at the moment of our awaking, the interval spent in sleep presents a total blank to the memory; and yet, it happens not unfrequently, that, at the distance of hours, some accidental circumstance occurring to our thoughts, or suggested to us from without, revives a long train of particulars associated in the mind with each other; to which train (not being able to account otherwise for the concatenation of its parts) we give the name of a *Dream*.

After all, I am very far from supposing that I have exhausted this subject; and I shall be fully satisfied with the success of my inquiries, if those who are qualified to distinguish between legitimate and hypothetical theories shall admit, that I have pointed out the plan on which these phenomena should be studied, and have made some progress,

(how small soever) towards its execution. Much additional light, I am sensible, might have been easily thrown on this part of our constitution, as well as upon many others, if I had not imposed on myself the restraint of adhering, wherever it was at all possible, to the modes of speaking employed by my predecessors in describing our mental operations.

One remark I must beg leave to recommend to the consideration of those who may hereafter engage in this research; that, among the astonishing appearances exhibited by the mind in sleep, a very large proportion are precisely analogous to those of which we are every moment conscious while awake. If the exciting causes, for example, of our Dreams seem mysterious and inscrutable, is not the fact the same with the origin of every idea or thought which spontaneously solicits our notice? The only difference is, that in the latter instance, in consequence of long and constant familiarity, they are surveyed by all with little wonder, and by most with hardly any attention. In the former instance, they rouse the curiosity of the most illiterate, from their comparative infrequency, and from the contrast which, in some respects, they present to the results of our habitual experience. — It is thus, that a peasant who has been accustomed from his infancy to see, without any emotion, the fall of heavy bodies to the ground, never fails to express the liveliest admiration when he first witnesses the powers of the loadstone.

In such cases, the researches of genuine science have a tendency to produce two moral effects equally beneficial. The one is to illustrate the unity of design in nature, by reconciling what seems, from its rarity or singularity, to be mysterious or incomprehensible, with the general laws which are familiarized to us by daily experience; the other, to counteract the effects of familiarity in blunting our natural curiosity with respect to these laws, by leading the thoughts to some of their more curious and apparently anomalous applications.

The phenomena of Dreaming may perhaps, in this last

point of view, form an article not altogether useless in the Natural History of Man; inasmuch as they contribute to attract our attention to those intellectual powers, from which it is so apt to be withdrawn by that external world, which affords the first, and (for the common purposes of life) the most interesting field for their exercise. In my own case, at least, this supposition has been exactly verified; as the speculations concerning the human mind which I have ventured to present to the public, all took their rise from the subject to which this note refers. The observations which I have stated with respect to it in the text (excepting a very few paragraphs since added) were written at the age of eighteen, and formed a part of the first philosophical essay which I recollect to have attempted. The same essay contained the substance of what I have introduced in chapter third, concerning the belief accompanying conception; and of the remarks stated in the third section of chapter fifth on the extent of the power which the mind has over the train of its thoughts. When I was afterwards led professionally, at the distance of many years, to resume the same studies, this short manuscript was almost the only memorial I had preserved of these favourite pursuits of my early youth; and from the views which it recalled to me insensibly arose the Analysis I have since undertaken of our intellectual faculties in general.

For some indulgence to the egotism of this note, I must trust to the good-nature of my readers. It has been lengthened much beyond my original intention, by an anxiety (not, I hope, unpardonable in an Author) to fix the date of some of my disquisitions and conclusions, of which it is highly probable I may magnify the importance beyond their just value. The situation of a public teacher, (I must beg leave to add,) by giving an immediate circulation to the doctrines he delivers, exposes him to many inconveniences which other classes of literary men have in their power to avoid.

Before concluding these remarks, I cannot help reminding my readers once more, that my fundamental principle with

respect to the state of the mind in sleep is, — not, that *the power of volition* is then suspended; but that *the influence of the will* over the faculties both of mind and body is then interrupted. (See pp. 330, 331, 332, 333.) I mention this chiefly, in order to mark the difference between my doctrine and that maintained in Dr. Darwin's *Zoonomia*. According to this ingenious writer, "the power of volition is totally "suspended in perfect sleep." (Zoonomia, vol. i. p. 315.) — "In the *Incubus*" (he observes) "the *desire* of moving the "body is painfully exerted; but the *power of moving it*, or "*volition*, is incapable of action till we awake." (P. 288.) Would he not have stated the fact more correctly, if he had said, that *volition* is painfully exerted; but that the power of moving the body is suspended? In the very accurate phraseology of Mr. Locke, "*volition* is an act of the mind, "knowingly exerting that dominion it takes itself to have "over any part of the man, by employing it in, or with-"holding it from, any particular action." This act of the mind Dr. Darwin expresses by the word *desire;* an indistinctness still extremely common among metaphysical writers; although it was long ago remarked and censured by the eminent author just quoted: "I find" (says Locke) "the "*will* often confounded with *desire;* and one put for the "other; and that by men, who would not willingly be "thought not to have very distinct notions of things, and "not to have written very clearly about them." (Essay on Human Understanding, vol. i. p. 203. 13th edition.)

NOTE [P], page 349.

Dr. Reid has, with great truth, observed, that Des Cartes' reasoning against the existence of the secondary qualities of matter, owe all their plausibility to the ambiguity of words. — When he affirms, for example, that the smell of a rose is not in the flower but in the mind, his pro-

position amounts only to this, that the rose is not conscious of the sensation of smell; but it does not follow from Des Cartes' reasonings, that there is no quality in the rose which excites the sensation of smell in the mind; — which is all that any person means when he speaks of the smell of that flower. For the word *smell*, like the names of all secondary qualities, signifies two things, a sensation in the mind, and the unknown quality which fits it to excite that sensation.* The same remark applies to that process of reasoning by which Des Cartes attempts to prove that there is no heat in the fire.

All this, I think, will be readily allowed with respect to smells and tastes, and also with respect to heat and cold; concerning which I agree with Dr. Reid, in thinking that Des Cartes' doctrine, when cleared of that air of mystery which it derives from the ambiguity of words, differs very little, if at all, from the commonly received notions. But the case seems to be different with respect to *colours*, of the nature of which the vulgar are apt to form a very confused conception, which the Philosophy of Des Cartes has a tendency to correct. Dr. Reid has justly distinguished the *quality* of colour from what he calls the *appearance* of colour, which last can only exist in a mind.† Now I am disposed

* Some judicious remarks on this ambiguity in the names of secondary qualities, are made by Malebranche:

"It is only (says he) since the time of Des Cartes, that those confused "and indeterminate questions, whether fire is hot, grass green, and sugar "sweet, philosophers are in use to answer, by distinguishing the equi- "vocal meaning of the words expressing sensible qualities. If by heat, "cold, and savour, you understand such and such a disposition of parts, "or some unknown motion of insensible particles, then fire is hot, grass "green, and sugar sweet. But if by heat and other qualities you under- "stand what I feel by fire, what I see in grass, &c. fire is not hot, nor grass "green; for the heat I feel, and the colours I see are only in the soul."

† Dr. Akenside, in one of his Notes on his PLEASURES of IMAGINATION, observes, that colours, *as apprehended by the mind*, do not exist in the body. By this qualification, he plainly means to distinguish what Dr. Reid calls the appearance of colour, from colour considered as a quality of matter.

to believe, that when the vulgar speak of colour, they commonly mean the *appearance* of colour; or rather they associate the appearance and its cause so intimately together, that they find it impossible to think of them separately. * The sensation of colour never forms one simple object of attention to the mind like those of smell and taste; but every time we are conscious of it, we perceive at the same time extension and figure. Hence it is, that we find it impossible to conceive colour without extension, though certainly there is no more necessary connection between them, than between extension and smell.

From this habit of associating the two together, we are led also to assign them the same place, and to conceive the different colours, or (to use Dr. Reid's language) the *appearance* of the different colours, as something spread over the surfaces of bodies. I own that when we reflect on the subject with attention, we find this conception to be indistinct, and see clearly that the appearance of colour can exist only in a mind: but still it is some confused notion of this sort, which every man is disposed to form who has not been

* Dr. Reid is of opinion, that the vulgar always mean to express by the word *colour*, a quality, and not a sensation. "Colour (says he) "differs from other secondary qualities in this, that whereas the name "of the quality is sometimes given to the sensation which indicates it, "and is occasioned by it, we never, as far as I can judge, give the name "of *colour* to the sensation, but to the quality only." This question is of no consequence for us to discuss at present, as Dr. Reid acknowledges in the following passage, that the sensation and quality are so intimately united together in the mind, that they seem to form only one simple object of thought. "When we think or speak of any particular "colour, however simple the notion may seem to be which is presented "to the imagination, it is really in some sort compounded; it involves "an unknown cause and a known effect. The name of *colour* belongs "indeed to the cause only, and not to the effect. But as the cause is "unknown, we can form no distinct conception of it, but by its relation "to the known effect. And therefore both go together in the imagination, and are so closely united that they are mistaken for one simple "object of thought."

Inquiry into the Human Mind, chap. vi. sect 4.

very familiarly conversant with philosophical inquiries.—I find, at least, that such is the notion which most readily presents itself to my own mind.

Nor is this reference of the sensation, or appearance of colour to an external object, a fact altogether singular in our constitution. It is extremely analogous to the reference which we always make, of the sensations of touch to those parts of the body where the exciting causes of the sensations exist.—If I strike my hand against a hard object, I naturally say, that I feel pain in my hand. The philosophical truth is, that I perceive the cause of the pain to be applied to that part of my body. The sensation itself I cannot refer *in point of place* to the hand, without conceiving the soul to be spread over the body by diffusion.

A still more striking analogy to the fact under our consideration, occurs in those sensations of touch which we refer to a place *beyond the limits of the body*; as in the case of pain felt in an amputated limb.

The very intimate combination to which the foregoing observations on the sensation of colour relate, is taken notice of by d'Alembert in the *Encyclopedie*, as one of the most curious phenomena of the human mind.

" Il est très évident que le mot *couleur* ne désigne aucune " propriété du corps, mais seulement une modification de " notre ame; que la blancheur, par exemple, la rougeur, " &c. n'existent que dans nous, et nullement dans le corps " auxquels nous les rapportons; néanmoins par une habi- " tude prise dès notre enfance, c'est une chose très singu- " lière et digne de l'attention des métaphysiciens, que ce " penchant que nous avons à rapporter à une substance " matérielle et divisible, ce qui appartient réellement à une " substance spirituelle et simple; et rien n'est peut-être " plus extraordinaire dans les opérations de notre ame, " que de la voir transporter hors d'elle-même et étendre, " pour ainsi dire, ses sensations sur une substance à laquelle " elles ne peuvent appartenir."

From the following passage in Condillac's Traité des Sen-

sations, it appears that the phenomenon here remarked by d'Alembert, was, in Condillac's opinion, the natural and obvious effect of an early and habitual association of ideas. I quote it with the greater pleasure, that it contains the happiest illustration I have seen of the doctrine which I have been attempting to explain.

" On pourroit faire une supposition, où l'odorat apprendroit à juger parfaitement des grandeurs, des figures, des situations, et des distances. Il suffiroit d'un côté de soumettre les corpuscules odoriférans aux loix de la dioptrique, et de l'autre, de construire l'organe de l'odorat à peu près sur le modèle de celui de la vue; ensorte que les rayons odoriférans, après s'être croisés à l'ouverture, frappassent sur une membrane intérieure autant de points distincts qu'il y en a sur les surfaces d'où ils seroient réfléchis.

En pareil cas, nous contracterions bientôt l'habitude d'étendre les odeurs sur les objets, et les philosophes ne manqueroient pas de dire, que l'odorat n'a pas besoin des leçons du toucher pour appercevoir des grandeurs et des figures."

Oeuvres de CONDILLAC. — *Edit. Amst.*, vol. v. p. 223.

NOTE [Q], page 350.

" VERUM quidem est, quod hodierni musici sic loqui soleant (acutum in alto reputantes et grave in imo) quodque ex Græcis recentioribus nonnulli sic aliquando (sed raro) loquuti videantur; apud quos sensim inolevit mos sic loquendi. — Sed antiquiores Græci plane contrarium (grave reputantes in alto et acutum in imo). Quod etiam ad Boethii tempora continuatum est, qui in schematismis suis, grave semper in summo ponit, et acutum in imo." DAVID GREGORY, in *Præfat. ad edit. suam Euclid. Op. Oxon.* 1703.

The association to which, in modern times, we are habituated from our infancy, between the ideas of acute and high, and between those of grave and low, is accounted for

by Dr. Smith, in his Harmonics, from the formation of the voice in singing; which Aristides Quintilianus thus describes: "Γινεται δε ἡ μεν βαρυτης, κατωθεν αναφερομενε τε "πνευματος, ἡ δ' οξυτης επιπολης προιεμενε, &c. Et quidem "gravitas fit, si ex inferiore parte (gutturis) spiritus sursum "feratur, acumen vero, si per summam partem prorumpat;" (as Meibomius translates it in his notes.)

See SMITH's *Harmonics*, p. 3.

Dr. Beattie, in his ingenious Essay on Poetry and Music, says, it is probable that the deepest or gravest sound was called *summa* by the Romans, and the shrillest or acutest *ima:* and he conjectures, that "this might have been "owing to the construction of their instruments; the "string that sounded the former being perhaps highest in "place, and that which sounded the latter lowest." If this conjecture could be verified, it would afford a proof from the fact, how liable the mind is to be influenced, this respect by casual combinations.

NOTE [R], page 395.

THE difference between the effects of *association* and of *imagination*, (in the sense in which I employ these words,) in heightening the pleasure or the pain produced on the mind by external objects, will appear from the following remarks:

1. As far as the association of ideas operates in heightening pleasure or pain, the mind is passive: and accordingly where such associations are a source of inconvenience, they are seldom to be cured by an effort of our volition, or even by reasoning; but by the gradual formation of contrary associations. Imagination is an active exertion of the mind; and although it may often be difficult to restrain it, it is plainly distinguishable in theory from the associations now mentioned.

2. In every case in which the association of ideas operates, it is implied that some pleasure or pain is recalled which was felt by the mind before. I visit, for example, a scene

where I have been once happy; and the sight of it affects me, on that account, with a degree of pleasure, which I should not have received from any other scene equally beautiful. I shall not inquire whether, in such cases, the associated pleasure arises *immediately* upon the sight of the object, and without the intervention of any train of thought; or whether it is produced by the recollection and conception of former occurrences which the perception recals. On neither supposition does it imply the exercise of that creative power of the mind to which we have given the name of Imagination. It is true, that commonly, on such occasions, imagination is busy; and our pleasure is much heightened by the colouring which she gives to the objects of memory. But the difference between the effects which arise from the operation of this faculty, and those which result from association, is not, on that account, the less real.

The influence of imagination on happiness is chiefly felt by cultivated minds. That of association extends to all ranks of men, and furnishes the chief instrument of education; insomuch, that whoever has the regulation of the associations of another from early infancy, is, to a great degree, the arbiter of his happiness or misery.

Some very ingenious writers have employed the word Association in so extensive a sense, as to comprehend, not only imagination, but all the other faculties of the mind. Wherever the pleasing or the painful effect of an object does not depend solely on the object itself, but arises either wholly or in part from some mental operation to which the perception of it gives rise, the effect is referred to association. And undoubtedly this language may be employed with propriety, if the word Association be applied to all the ideas and feelings which may arise in the mind, in consequence of the exercise which the sight of the object may give to the imagination, to the reasoning powers, and to the other principles of our nature. But in this work, and particularly in the second part of chap. v., I employ the word Association in a much more limited sense; to express the effect which an

object derives from ideas, or from feelings which it does not necessarily suggest, but which it uniformly recals to the mind, in consequence of early and long-continued habits.

NOTE [S], page 412.

THE following passage from Malebranche will be a sufficient specimen of the common theories with respect to memory.

"In order to give an explanation of memory, it should "be called to mind, that all our different perceptions are "affixed to the changes which happen to the fibres of the "principal parts of the brain, wherein the soul particularly "resides.

"This supposition being laid down, the nature of the "memory is explained: for as the branches of a tree, which "have continued for some time bent after a particular man-"ner, preserve a readiness and facility of being bent afresh "in the same manner; so the fibres of the brain, having "once received certain impressions from the current of the "animal spirits, and from the action of the objects upon "them, retain for a considerable time some facility of re-"ceiving the same dispositions. Now the memory consists "only in that promptness or facility; since a man thinks "upon the same things, whenever the brain receives the "same impressions." *

"The most considerable differences," says the same Author in another passage, "that are found in one and "the same person, during his whole life, are in his infancy, "in his maturity, and in his old age. The fibres in the "brain in a man's childhood are soft, flexible, and delicate; "a riper age dries, hardens, and corroborates them; but "in old age they grow altogether inflexible, gross, and in-"termixed with superfluous humours, which the faint and "languishing heat of that age is no longer able to disperse: "for as we see that the fibres which compose the flesh

* Book ii. chap. 5. (Page 54 of TAYLOR'S Transl.)

" harden by time, and that the flesh of a young partridge " is without dispute more tender than that of an old one, " so the fibres of the brain of a child, or a young person, " must be more soft and delicate than those of persons " more advanced in years.

" We shall understand the ground and the occasion of " these changes, if we consider that the fibres are continu- " ally agitated by the animal spirits, which whirl about " them in many different manners: for as the winds parch " and dry the earth by their blowing upon it, so the animal " spirits, by their perpetual agitation, render by degrees " the greatest part of the fibres of a man's brain more dry, " more close, and solid; so that persons more stricken in " age must necessarily have them almost always more in- " flexible than those of a lesser standing. And as for those " of the same age, drunkards, who for many years together " have drank to excess either wine, or other such intox- " icating liquors, must needs have them more solid and " more inflexible than those who have abstained from the " use of such kind of liquors all their lives." *

NOTE [T], page 476.

" THOUGH Sir Isaac's memory was much decayed in " the last years of his life, I found he perfectly under- " stood his own writings, contrary to what I had frequently " heard in discourse from many persons. This opinion of " theirs might arise, perhaps, from his not being always " ready at speaking on these subjects, when it might be ex- " pected he should. But as to this it may be observed, that " great geniuses are frequently liable to be absent, not only " in relation to common life, but with regard to some of " the parts of science they are the best informed of. In- " ventors seem to treasure up in their minds what they have " found out, after another manner than those do the same

* Book ii. chap. 6. (Page 56 of TAYLOR'S Transl.)

" things, who have not this inventive faculty. The former, " when they have occasion to produce their knowledge, " are, in some measure, obliged immediately to investigate " part of what they want. For this they are not equally fit " at all times; so it has often happened, that such as retain " things chiefly by a very strong memory, have appeared " off-hand more expert than the discoverers themselves."

Preface to PEMBERTON'S *View of* NEWTON'S *Philosophy.*

NOTE [U], page 524.

" GOING over the theory of virtue in one's thoughts, " talking well, and drawing fine pictures of it; this is " so far from necessarily or certainly conducing to form a " habit of it in him who thus employs himself, that it may " harden the mind in a contrary course, and render it gra- " dually more insensible; *i. e.* form a habit of insensibility " to all moral obligations. For, from our very faculty of " habits, passive impressions, by being repeated, grow " weaker. Thoughts, by often passing through the mind, " are felt less sensibly: being accustomed to danger, begets " intrepidity, *i. e.* lessens fear; to distress lessens the passion " of pity; to instances of others' mortality, lessens the sen- " sible apprehension of our own. And from these two ob- " servations together, that practical habits are formed and " strengthened by repeated acts; and that passive impressions " grow weaker by being repeated upon us; it must follow, " that active habits may be gradually forming and strength- " ening by a course of acting upon such and such motives " and excitements, whilst these motives and excitements " themselves are, by proportionable degrees, growing less " sensible, *i. e.* are continually less and less sensibly felt, " even as the active habits strengthen. And experience " confirms this: for active principles, at the very time they " are less lively in perception than they were, are found to " be, somehow, wrought more thoroughly into the temper " and character, and become more effectual in influencing

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" our practice. The three things just mentioned may
" afford instances of it. Perception of danger is a natural
" excitement of passive fear and active caution: and by
" being inured to danger, habits of the latter are gradu-
" ally wrought, at the same time that the former gradually
" lessens. Perception of distress in others, is a natural ex-
" citement passively to pity, and actively to relieve it: but
" let a man set himself to attend to, inquire out, and re-
" lieve distressed persons, and he cannot but grow less and
" less sensibly affected with the various miseries of life with
" which he must become acquainted; when yet, at the
" same time, benevolence, considered not as a passion, but
" as a practical principle of action, will strengthen; and
" whilst he passively compassionates the distressed less, he
" will acquire a greater aptitude actively to assist and be-
" friend them. So also, at the same time that the daily
" instances of men's dying around us, give us daily a less
" sensible passive feeling or apprehension of our own mor-
" tality, such instances greatly contribute to the strength-
" ening a practical regard to it in serious men; *i. e.* to
" forming a habit of acting with a constant view to it."

BUTLER's *Analogy*, page 122. 3d edit.

THE END.

Printed by A. Strahan,
Printers-Street, London.

00059739

Digitized with financial assistance from the
Government of Maharashtra
on 21 October, 2015